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ABSTRACT

This report presents the final recommendations, in the form of a new set of guidelines, of a federal advisory committee concerning revisions to the Americans with Disabilities Act Accessibility Guidelines (ADAAG). The guidelines provide scoping and technical requirements for the design, construction, and alteration of sites, facilities, buildings, and elements for accessibility by individuals with disabilities. The guidelines are grouped into 10 chapters which address: (1) definitions of terms; (2) scoping requirements (such as passenger loading zones, stairways, signs, sinks, and transportation facilities); (3) building blocks (such as wheelchair turning space, protruding objects, and reach ranges); (4) accessible routes and accessible means of egress (such as walking surfaces, ramps, and wheelchair lifts); (5) general site and building elements (such as parking spaces, stairways, and handrails); (6) plumbing elements and facilities (such as toilet and bathing rooms, bathtubs, and laundry equipment); (7) communication elements and features (such as fire alarm systems, assistive listening systems, and detectable warnings); (8) special rooms and spaces (such as wheelchair spaces in assembly areas, and medical care facility rooms); (9) built-in furnishings and equipment (such as benches and storage); and (10) transportation facilities, such as bus stops and terminals. Recommendations for changes in format of the guidelines are also offered. (DB)

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ED 401 675

ADAAG REVIEW FEDERAL ADVISORY COMMITTEE

September 30, 1996

Final Report

Recommendations for a New ADAAG

EC 305165

U.S. Architectural & Transportation Barriers Compliance Board

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October 10, 1996

Ms. Judith E. Heumann
Chairperson
United States Architectural and
Transportation Barriers Compliance Board
1331 F Street, N.W.
Washington, D.C. 20004-1111

Dear Ms. Heumann:

It gives me great pleasure to officially transmit to the Access Board, the ADAAG Review Advisory Committee's *Final Report, Recommendations for a New ADAAG*. Although a challenging assignment, I'm sure the committee members would agree that our two-year effort was a most worthy endeavor and a very enjoyable and highly professional experience.

We believe we have developed a comprehensive set of recommendations that will help result in the next edition of the ADAAG being compatible with available technologies, yet flexible enough to allow the prompt and efficient use of appropriate new technologies and practices. Further, through the committee's concerted efforts to coordinate its recommendations with ANSI A117.1 and ASME/ANSI A17.1, the ADAAG's consistency with private accessibility related criteria can reach a new and beneficial level. Finally, and most importantly, we believe the Committee's recommendations will effectively meet the needs of individuals with a wide range of disabilities.

As chairman of the Committee I would like to thank you, other members of the Board, and the staff for appointing such a knowledgeable, experienced and dedicated committee. Further, the staff support provided by the Access Board to assist the committee was, throughout the entire process, simply outstanding. Without such a talented committee and such a capable staff, the Committee's report would surely be far less responsive.

On behalf of the Committee, it was a distinct pleasure serving the Access Board in this most worthy endeavor. The Committee stands ready to assist in implementing its recommendations in support of the needs and rights of persons with disabilities and in the public interest.

Sincerely,

David A. Harris, FAIA
President

Attachment

United States
Architectural and Transportation Barriers Compliance Board

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INTRODUCTION

This report represents the final recommendations of the ADAAG Review Advisory Committee to the US Access Board for revisions to the Americans with Disabilities Act Accessibility Guidelines. This final report is presented in the form of a new set of guidelines.

NOTE: This report is a set of recommendations from the Advisory Committee to the US Access Board. Any proposed revisions to ADAAG will be made through the federal rulemaking process. This report is not part of any rulemaking.

RECOMMENDATIONS FOR FORMAT OF THE NEW ADAAG

In addition to the scoping and technical provisions presented in this report, the Advisory Committee also recommends a new format for the next edition of ADAAG. Recommendations regarding dimensions, defined terms, language style, and numbering are already incorporated in the report; they are specified here for use by the Access Board. This report does not incorporate the Committee recommendations for layout; figures and commentary were not fully addressed by the Committee. Recommendations for layout, figures and commentary are for use by the Access Board in developing the next final ADAAG.

NOTE: THIS REPORT IS A SET OF RECOMMENDATIONS FROM THE ADVISORY COMMITTEE TO THE US ACCESS BOARD. ANY PROPOSED REVISIONS TO ADAAG WILL BE MADE THROUGH THE FEDERAL RULEMAKING PROCESS. THIS REPORT IS NOT PART OF ANY RULEMAKING.

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CHAPTER 1: APPLICATION AND ADMINISTRATION

101 Purpose

These guidelines provide scoping and technical requirements for accessibility to *sites*, *facilities*, *buildings*, and *elements* by individuals with disabilities. These requirements are to be applied during the design, construction, and *alteration* of *sites*, *facilities*, *buildings*, and *elements* to the extent required by regulations issued by Federal agencies under the Americans with Disabilities Act of 1990.

102 Provisions for Adults

The technical requirements in these guidelines are based upon adult dimensions and anthropometrics.

103 Equivalent Facilitation

Nothing in these guidelines is intended to prevent the use of designs or technologies as alternatives to those prescribed in this document, provided they provide equivalent or superior accessibility and usability.

104 Dimensional Tolerances

Dimensions that are not stated as "maximum" or "minimum" are absolute. All dimensions are subject to conventional industry tolerances.

105 Referenced Standards

105.1 General. The standards referenced in these guidelines and listed in 105.2 shall be considered part of the requirements of these guidelines to the prescribed extent of each such reference. References to standards within the technical and scoping requirements shall apply to the specific edition of the reference standard listed in 105.2. Where differences occur between provisions of these guidelines and referenced standards, the provisions of these guidelines shall apply.

105.2 Referenced Standards.

105.2.1 Power Operated Pedestrian Doors. ANSI/BHMA A156.10-1996.

105.2.2 Power-Assist and Low-Energy Power Operated Doors. ANSI/BHMA A156.19-1996.

105.2.3 Safety Code for Elevators and Escalators. ASME/ANSI A17.1-1993, (including Addenda ASME/ANSI A17.1a-1994 and ASME/ANSI A17.1b-1995)

106 Definitions

106.1 General. Terms defined in 106.5 shall have the specified meaning for purposes of this document, unless otherwise stated.

106.2 Terms Defined in Referenced Standards. Terms not defined in this section, but specifically defined in a referenced standard, shall have the specified meaning from the referenced standard, unless otherwise stated.

106.3 Undefined Terms. The meaning of terms not specifically defined in this document or in referenced standards shall be as defined by collegiate dictionaries in the sense that the context implies.

106.4 Interchangeability. Words, terms and phrases used in the singular includes the plural and the plural the singular.

106.5 Defined Terms

Accessible. A *site*, *building*, *facility*, or portion thereof that complies with these guidelines.

Accessible Means of Egress. Means of egress is a continuous and unobstructed way of exit travel from any point in a *building* or *facility* to a public way. An *accessible means of egress* is one that provides an

accessible route to an *area of refuge*, a horizontal exit or a public way.

Accessible Route. A continuous unobstructed path that complies with these guidelines.

Addition. An expansion, extension, or increase in the gross floor area of a *building* or *facility*.

Administrative Authority. A governmental agency that adopts or enforces regulations and guidelines for the design, construction, or *alteration* of *buildings* and *facilities*.

Alteration. A change to a *building* or *facility* that affects or could affect the usability of the *building* or *facility* or part thereof. *Alterations* include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, changes or rearrangement of the structural parts or *elements*, and changes or rearrangement in the plan configuration of walls and full-height partitions. Normal maintenance, reroofing, painting or wallpapering, or changes to mechanical and electrical systems are not *alterations* unless they affect the usability of the *building* or *facility*.

Area of Refuge. An area where people who are unable to use stairs may remain temporarily to await further instructions or assistance during emergency evacuation.

Assembly Area. A room or *space* accommodating a group of individuals for recreational, educational, political, social, or amusement purposes, or for the consumption of food and drink.

Automatic Door. A door equipped with a power-operated mechanism and controls that open and close the door automatically upon receipt of a momentary actuating signal (see *power-assisted door*).

Building. Any structure used or intended for supporting or sheltering any use or occupancy.

Characters: Letters, numbers, punctuation marks and typographic symbols.

Circulation Path. An exterior or interior way of passage from one place to another for pedestrians, including, but not limited to, *walks*, hallways, courtyards, stairways, and stair landings.

Closed Circuit Telephone. A telephone with a dedicated line such as a house phone, courtesy phone or phone that must be used to gain entrance to a *facility*.

Common Use. Interior and exterior rooms, *spaces*, or *elements* that are made available for the use of a restricted group of people such as the occupants of a homeless shelter, the occupants of an office building, or the guests of such occupants.

Controls and Operating Mechanisms. A component of an *element* by which the user activates, deactivates, or adjusts the *element*.

Cross Slope. The slope that is perpendicular to the direction of travel (see *running slope*).

Curb Ramp. A short *ramp* cutting through a curb or built up to it.

Destination-oriented Elevator. An elevator system that provides lobby controls to select floor stops, lobby indicators designating which elevator to use and a car indicator designating the floors at which the car will stop.

Detectable Warning. A standardized surface feature built in or applied to walking surfaces or other *elements* to warn visually impaired people of hazards on a *circulation path*.

Dwelling Unit. A single unit which provides a kitchen or food preparation area, in addition to rooms and *spaces* for living, bathing and sleeping. *Dwelling units* include a single family home or a townhouse used as a transient group home; an apartment building used as a shelter; guest rooms in a hotel that provide *sleeping accommodations* and food preparation areas; and other similar *facilities* used on a transient basis. For purposes of these guidelines, use of the term *dwelling unit* does not imply the unit is used as a residence.

Element. An architectural or mechanical component of a *building*, *facility*, *space*, or *site*.

Entrance. Any access point to a *building* or portion of a *building* or *facility* used for the purpose of entering. An *entrance* includes the approach *walk*, the vertical access leading to the *entrance* platform, the *entrance* platform itself, vestibule if provided, the entry door or gate, and the hardware of the entry door or gate.

Facility. All or any portion of *buildings*, structures, *site* improvements, complexes, equipment, roads, *walks*, passageways, parking lots, or other real or personal property located on a *site*.

Ground Floor. Any *occupiable* floor less than one *story* above or below grade with direct access to grade. A *building* or *facility* always has at least one *ground floor* and may have more than one *ground floor* such as where a split level *entrance* has been provided or where a *building* is built into a hillside.

Mezzanine. That portion of a *story* which is an intermediate floor level placed within the *story* and having *occupiable space* above and below its floor.

Marked Crossing. A crosswalk or other identified path intended for pedestrian use in crossing a *vehicular way*.

Occupiable. A room or enclosed *space* designed for human occupancy.

Pictogram: A pictorial symbol which is recognized as representing activities, *facilities*, or concepts.

Power-assisted Door. A door used for human passage with a mechanism that helps to open the door, or relieves the opening resistance of a door, upon the activation of a switch or a continued force applied to the door itself. (See *automatic door*.)

Public Entrance. An *entrance* that is not a *service entrance*.

Public Use. Interior or exterior rooms or *spaces* that are made available to the general public. Public use may be provided at a *building* or *facility* that is privately or publicly owned.

Qualified Historic Building or Facility. A *building* or *facility* that is listed in or eligible for listing in the National Register of Historic Places; or designated as historic under an appropriate State or local law.

Ramp. A walking surface which has a *running slope* steeper than 1:20.

Running Slope. The slope that is parallel to the direction of travel (see *cross slope*).

Self-Service Storage Facility. Real property designed and used for the purpose of renting or leasing individual storage *spaces* to customers for the purpose of storing and removing personal property on a self-service basis.

Service Entrance. An *entrance* intended primarily for delivery of goods or services.

Sign. An architectural *element* composed of displayed text, symbolic, *tactile* or pictorial information.

Site. A parcel of land bounded by a property line or a designated portion of a public right-of- way.

Sleeping Accommodations. Rooms in which people sleep, such as dormitory and hotel or motel guest rooms or suites.

Space. A definable area, such as a room, toilet room, hall, *assembly area*, *entrance*, storage room, alcove, courtyard, or lobby.

Story. That portion of a *building* included between the upper surface of a floor and upper surface of the floor or roof next above. A *story* containing one or more *mezzanines* has more than one floor level.

Structural Frame. The columns and the girders, beams, trusses and spandrels having direct connections to the columns and all other members which are essential to the stability of the *building* as a whole.

Tactile. An object that can be perceived using the sense of touch.

Technically Infeasible. With respect to an *alteration* of a *building* or a *facility*, something that has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member which is an essential part of the *structural frame*; or because other existing physical or *site* constraints prohibit modification or addition of *elements*, *spaces*, or features which are in full and strict compliance with the minimum requirements for new construction and which are necessary to provide accessibility.

TTY. Machinery or equipment that employs interactive graphic (typed) communications through the transmission of coded signals across the standard

telephone network. The term *TTY* also refers to devices known as text telephones and TDD's.

Transient Lodging. A *building*, *facility*, or portion thereof, excluding inpatient medical care *facilities* and long term care *facilities*, that contains one or more *dwelling units* or *sleeping accommodations*. Examples of *transient lodging* include resorts, group homes, hotels, motels, dormitories, homeless shelters, halfway houses and social service lodging.

Vehicular Way. A route intended for vehicular traffic, such as a street, driveway, or parking lot.

Walk. An exterior pathway with a prepared surface intended for pedestrian use, including general pedestrian areas such as plazas and courts.

Wheelchair Space. *Space* for a single wheelchair and its occupant.

Wheelchair Space Cluster. Locations of two or more adjacent *wheelchair spaces* along with companion seating in *assembly areas*.

CHAPTER 2: SCOPING REQUIREMENTS

201 Application

201.1 Scope. All areas of newly designed or newly constructed *buildings* and *facilities* and *altered* portions of existing *buildings* and *facilities* shall comply with these guidelines.

> **EXCEPTION:** These guidelines do not apply to an establishment located within a *building* that contains not more than five rooms for rent or hire that is occupied by the proprietor of such establishment as the residence of such proprietor.

201.2 Application Based on Building Use. Where a *site*, *building*, or *facility* contains more than one use, each portion shall comply with the applicable requirements for that use.

201.3 Temporary Structures. These guidelines cover temporary *buildings* and *facilities* as well as permanent *facilities*.

202 Application to Existing Buildings and Facilities

202.1 General. *Additions* and *alterations* to existing *buildings* or *facilities*, including *qualified historic buildings and facilities*, shall comply with these guidelines except as modified by 202.

202.2 Additions. Each *addition* to an existing *building* or *facility* shall comply with the requirements for new construction. Each *addition* that affects or could affect the usability of an area containing a primary function shall comply with 202.4.

202.3 Alterations. Where existing *elements* or *spaces* are *altered*, each *altered element* or *space* shall comply with the applicable provisions of this chapter.

> **EXCEPTIONS: 1.** *Altered elements* or *spaces* are not required to be located on an *accessible route*, unless required by 202.4.
>
> **2.** In *alterations*, where compliance with applicable provisions is *technically infeasible*, the *alteration* shall provide accessibility to the maximum extent feasible. Any *elements* or *spaces* of the *building* or *facility* that are being *altered* and can be made *accessible* shall be made *accessible* within the scope of the *alteration*.

202.3.1 Prohibited Reduction in Access. An *alteration* that decreases or has the effect of decreasing the accessibility of a *building* or *facility* below the requirements for new construction at the time of *alteration* is prohibited.

202.3.2 Extent of Application. An *alteration* of an existing *element*, *space*, or area of a *building* or *facility* shall not impose a requirement for greater accessibility than that which would be required for new construction.

202.4 Alterations Affecting Primary Function Areas. In addition to the requirements of 202.3, an *alteration* that affects or could affect the usability of or access to an area containing a primary function shall be made so as to ensure that, to the maximum extent feasible, the path of travel to the *altered* area and the restrooms, telephones, and drinking fountains serving the *altered* area, are readily *accessible* to and usable by individuals with disabilities, unless such *alterations* are disproportionate to the overall *alterations* in terms of cost and scope as determined under criteria established by the Attorney General.

> **EXCEPTION:** This requirement does not apply where the *alteration* work is limited solely to the electrical, mechanical, or plumbing system, or to hazardous material abatement, or automatic sprinkler retrofitting, and does not involve the *alteration* of any *elements* or *spaces* required to be *accessible* under these guidelines.

202.5 Alterations to Qualified Historic Buildings and Facilities. *Alterations* to a *qualified historic building or facility* shall comply with 202.3 and 202.4.

> **EXCEPTION:** Where alternative requirements are permitted in accordance with the procedures in 202.5.1 or 202.5.2.

202.5.1 Procedures for Alterations to Qualified Historic Buildings and Facilities Subject to Section 106 of the National Historic Preservation Act. Where *alterations* are undertaken to a *qualified historic building or facility* that is subject to Section 106 of the National Historic Preservation Act, the Federal agency with jurisdiction over the undertaking shall follow the Section 106 process. Where the State Historic Preservation Officer or Advisory Council on Historic Preservation determines that compliance with the requirements for *accessible routes, ramps, entrances*, or toilet *facilities* would threaten or destroy the historic significance of the *building* or *facility*, the alternative requirements for that *element* shall apply.

202.5.2 Alterations to Qualified Historic Buildings and Facilities Not Subject to Section 106 of the National Historic Preservation Act. Where *alterations* are undertaken to a *qualified historic building or facility* that is not subject to section 106 of the National Historic Preservation Act, and the entity undertaking the *alterations* believes that compliance with the requirements for *accessible routes, ramps, entrances*, or toilet *facilities* would threaten or destroy the historic significance of the *building* or *facility*, the entity shall consult with the State Historic Preservation Officer. Where the State Historic Preservation Officer determines that compliance with the accessibility requirements for *accessible routes, ramps, entrances* or toilet *facilities* would threaten or destroy the historical significance of the *building* or *facility*, the alternative requirements for that *element* shall apply.

202.5.2.1 Consultation With Interested Persons. Interested persons shall be invited to participate in the consultation process, including State or local accessibility officials, individuals with disabilities, and organizations representing individuals with disabilities.

202.5.2.2 Certified Local Government Historic Preservation Programs. Where the State Historic Preservation Officer has delegated the consultation responsibility for purposes of this section to a local government historic preservation program that has been certified in accordance with section 101(c) of the National Historic Preservation Act of 1966 (16 U.S.C. 470a (c)) and implementing regulations (36 CFR 61.5), the responsibility shall be permitted to be carried out by the appropriate local government body or official.

203 General Exceptions

203.1 General. *Sites, buildings, facilities* and *elements* shall be exempt from these guidelines to the extent specified by 203.

203.2 Construction Sites. Structures, *sites* and equipment directly associated with the actual processes of construction, including, but not limited to scaffolding, bridging, materials hoists, materials storage, or construction trailers are not required to be *accessible*. Portable toilet units provided for use exclusively by construction personnel on a construction *site* are not required to be *accessible*.

203.3 Employee Work Stations. Individual employee work stations are not required to be *accessible* but shall be located on an *accessible route*.

203.4 Raised Areas. Raised areas used primarily for purposes of security, life safety, or fire safety, including but not limited to observation galleries, prison guard towers, fire towers, or life guard stands are not required to be *accessible* or to be served by an *accessible route*.

203.5 Limited Access Spaces. *Spaces* accessed only by ladders, catwalks, crawl spaces, very narrow passageways, or tunnels are not required to be *accessible*.

203.6 Equipment Spaces. *Spaces* frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment are not required to be *accessible*. Such *spaces* include but are not limited to elevator pits, elevator penthouses, mechanical, electrical, or communications equipment rooms, piping or equipment catwalks, water or sewage treatment pump rooms and stations, electric substations and transformer vaults, and highway and tunnel utility *facilities*.

203.7 Single Occupant Structures. Single occupant structures accessed only by passageways below grade or elevated above grade, including but not limited to toll

booths that are accessed only by underground tunnels, are not required to be *accessible*.

204 Protruding Objects

204.1 General. Protruding objects on *circulation paths* shall comply with 307.

205 Controls and Operating Mechanisms

205.1 General. *Controls and operating mechanisms* on *accessible routes* and in *accessible* rooms and *spaces* shall comply with 309.

206 Accessible Routes

206.1 General. *Accessible routes* shall be provided in accordance with 206.

206.2 Where Required. *Accessible routes* shall be provided where required by 206.2.1 through 206.2.7 and shall comply with Chapter 4.

206.2.1 Site Arrival Points. At least one *accessible route* shall be provided within the boundary of the *site* from public transportation stops, *accessible* parking spaces, passenger loading zones, and public streets or sidewalks, to the *accessible building entrance* they serve.

EXCEPTION: In *alterations* to *qualified historic buildings or facilities* permitted by 202.5 to use alternative requirements, at least one *accessible route* from a *site* access point to an *accessible entrance* shall be provided.

206.2.2 Within a Site. At least one *accessible route* shall connect *accessible buildings, accessible facilities, accessible elements*, and *accessible spaces* that are on the same *site*.

EXCEPTION : An *accessible route* is not required between *accessible facilities* that have as the only means of access between them, a *vehicular way* not provided for pedestrian access.

206.2.3 Multi-level Buildings and Facilities. At least one *accessible route* shall connect each level, including *mezzanines*, in multi-*story buildings* and *facilities*.

EXCEPTIONS: 1. An *accessible route* is not required to levels located above or below the *accessible* level in *buildings* or *facilities* that are less than three *stories* or that have less than 3000 square feet per *story* unless the *building* is a shopping center, a shopping mall, or the professional office of a health care provider, or another type of *facility* as determined by the Attorney General.

2. In *alterations* to *qualified historic buildings or facilities* where alternative requirements are permitted by 202.5, an *accessible route* from an *accessible entrance* to all publicly used *spaces* on at least the level of the *accessible entrance* shall be provided.

206.2.3.1 Stairs and Escalators in Existing Buildings. In *alterations* and *additions*, where an escalator or stair is provided where none existed previously and major structural modifications are necessary for such installation, an *accessible route* shall be provided between the levels served by the escalator or stair, unless exempted by 206.2.3.

206.2.4 Accessible Spaces and Elements. At least one *accessible route* shall connect *accessible building* or *facility entrances* with all *accessible spaces* and *elements* within the *building* or *facility* which are otherwise connected by a *circulation path*.

EXCEPTION: An *accessible route* is not required between levels where exempted by 206.2.3.

206.2.5 Restaurants and Cafeterias. In restaurants and cafeterias, an *accessible route* shall be provided to all dining areas, including raised or sunken dining areas, and outdoor seating areas.

EXCEPTIONS: 1. In *buildings* without elevators, an *accessible route* to a *mezzanine* dining area is not required, provided that the *mezzanine* contains less than 25% of the total area for seating and dining and the same services are provided in the *accessible* area.

2. In *alterations*, accessibility to raised or sunken dining areas, or to all parts of outdoor seating areas is not required provided that the same services and decor are provided in an

accessible space usable by the general public and not restricted to use by people with disabilities.

206.2.6 Performance Areas. An *accessible route* shall be provided where a *circulation path* directly connects a performance area to an assembly seating area. An *accessible route* shall be provided from performance areas to ancillary areas or *facilities* used by performers. In *alterations*, where it is *technically infeasible* to alter all performance areas to be on an *accessible route*, at least one of each type of performance area shall be made *accessible*.

206.2.7 Raised Platforms. In banquet rooms or *spaces* where a head table or speaker's lectern is located on a raised platform, an *accessible route* shall be provided to the platform. Open edges of the raised platform shall be obstructed by placement of tables or provided with edge protection complying with 405.9.

206.3 Location. *Accessible routes* shall coincide with or be located in the same area as a general *circulation path*. Where the *circulation path* is interior, the *accessible route* shall also be interior.

206.4 Entrances. *Accessible entrances* shall be provided in accordance with 206.4.1 through 206.4.6.

EXCEPTIONS: 1. Where an *alteration* includes *alterations* to an *entrance*, and the *building* has an *accessible entrance*, the *altered entrance* is not required to be *accessible*, unless required by 202.4. *Signs* complying with 206.4.6 shall be provided. **2.** In *alterations* to *qualified historic buildings or facilities* permitted by 202.5 to use alternative requirements, at least one *accessible* public *entrance* shall be provided. Where no public *entrance* can be made *accessible*, then an unlocked *entrance* not used by the general public shall be made *accessible*. The *accessible entrance* shall have a notification system or shall be provided with remote monitoring. *Signs* complying with 206.4.6 shall be provided at the primary *entrance* and at the *accessible entrance*.

206.4.1 Parking Garage Entrances. Where direct access to a *building* is provided for pedestrians from an enclosed parking garage, at least one direct *entrance* from the garage to the *building* shall be *accessible*.

206.4.2 Entrances from Tunnels or Elevated Walkways. Where direct access is provided for pedestrians from a pedestrian tunnel or elevated walkway to a *building*, at least one direct *entrance* to the *building* from each tunnel or walkway shall be *accessible*.

206.4.3 Public Entrances. In addition to *accessible entrances* required by 206.4.1 and 206.4.2, at least 50 percent of all other public *entrances* shall be *accessible*. At least one *accessible entrance* shall be a *ground floor entrance*.

206.4.4 Tenant Spaces. At least one *accessible entrance* shall be provided to each tenancy in a *facility*.

206.4.5 Service Entrances. If a *service entrance* is the only *entrance* to a *building* or to a tenancy in a *facility*, that *entrance* shall be *accessible*.

206.4.6 Signs. Where not all *entrances* are *accessible*, *accessible entrances* shall be identified by the International Symbol of Accessibility complying with 703.7 and directional *signs* indicating the location of the nearest *accessible entrance* shall be provided at inaccessible *entrances*. Directional *signs* shall comply with 703.4. No *signs* are required where all *entrances* are *accessible*.

206.5 Doors and Doorways. *Accessible* doors and doorways shall be provided in accordance with 206.5.1 and 206.5.2 and shall comply with 404.

206.5.1 Accessible Entrances. Each *accessible entrance* to a *building* or *facility* shall have at least one *accessible* door or doorway.

206.5.2 Accessible Rooms and Spaces. Within a *building* or *facility*, at least one door or doorway serving each *accessible* room or *space* shall be *accessible*.

206.6 Elevators. New passenger elevators shall comply with 407.2 or 407.3. Where multiple elevators are

provided, each passenger elevator shall comply with 407.2 or 407.3.

EXCEPTION: Where an elevator is provided in a *building* or *facility* eligible for the exceptions to 206.2.3, the elevator shall comply with 407.2, 407.3 or 407.4.

206.6.1 Existing Elevators. *Altered elements* of existing elevators shall comply with 407.5. Such *elements* shall also be *altered* in all elevators that are programmed to respond to the same hall call control as the *altered* elevator and shall comply with the requirements of 407.5.

206.7 Wheelchair (Platform) Lifts. Wheelchair (platform) lifts shall be permitted as a component of an *accessible route* in new construction as permitted by 206.7.1 through 206.7.3, and shall comply with 408. Wheelchair (platform) lifts provided as a component of an *accessible route* in an existing *building* shall comply with 408.

206.7.1 Performance Areas. Wheelchair (platform) lifts shall be permitted to provide an *accessible route* to a performance area in an assembly occupancy.

206.7.2 Wheelchair Spaces. Wheelchair (platform) lifts shall be permitted to comply with the *wheelchair space* dispersion and line-of-sight requirements of 221 and 802.

206.7.3 Incidental Spaces. Wheelchair (platform) lifts shall be permitted to provide an *accessible route* to incidental *occupiable spaces* and rooms which are not open to the general public and which are occupied by five persons maximum, including but not limited to equipment control rooms and projection booths.

207 Accessible Means of Egress

207.1 General. All *accessible spaces* shall be provided with not less than one *accessible means of egress*. Where more than one means of egress is required from any *accessible space*, each *accessible* portion of the *space* shall be served by not less than two *accessible means of egress*. *Accessible means of egress* shall comply with 409.

EXCEPTIONS. 1. *Areas of refuge* are not required in *buildings* or *facilities* protected throughout by a supervised automatic sprinkler system.

2. *Areas of refuge* are not required in open parking garages.

3. *Accessible means of egress* and *areas of refuge* are not required in *alterations* to existing *buildings*.

207.2 Elevators. In *buildings* where a required *accessible* floor is four or more *stories* above or below a level of exit discharge, at least one required *accessible means of egress* shall be an elevator complying with 409.3.

207.3 Signs. At exit stairways and elevators serving a required *accessible space*, but not serving as an *accessible means of egress*, directional *signs* indicating the location of *accessible means of egress* shall be provided. Such *signs* shall comply with 703.4.

208 Parking Spaces

208.1 General. Where parking spaces are provided, *accessible* parking spaces shall be provided in accordance with 208.

208.2 Number Required. *Accessible* parking spaces shall be provided in accordance with Table 208.2, except as required by 208.2.1, and shall comply with 502.

Table 208.2 Accessible Parking Spaces

Total Number of Parking Spaces Provided	Minimum Required Number of Accessible Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20, plus 1 for each 100 over 1000

208.2.1 Rehabilitation Facilities and Outpatient Physical Therapy Facilities. Twenty percent of patient and visitor parking spaces provided at rehabilitation *facilities* and outpatient physical therapy *facilities* shall be *accessible*.

208.2.2 Van Parking Spaces. For every eight or fraction of eight *accessible* parking spaces required by 208.2 and 208.2.1, at least one shall be a van parking space complying with 502.

208.3 Identification. *Accessible* parking spaces shall be identified by *signs* complying with 502.6.

EXCEPTION: Where a total of five or less parking spaces are provided.

208.4 Location. *Accessible* parking spaces serving a particular *building* shall be located on the shortest *accessible route* from adjacent parking to an *accessible entrance*. In *buildings* with multiple *accessible entrances* with adjacent parking, *accessible* parking spaces shall be dispersed and located closest to the *accessible entrances*. In parking *facilities* that do not serve a particular *building*, *accessible* parking spaces shall be located on the shortest *accessible route* to an *accessible* pedestrian *entrance* of the parking *facility*. *Accessible* parking spaces shall be permitted to be located in different lots if equivalent or greater accessibility is provided in terms of distance from an *accessible entrance*, cost and convenience.

EXCEPTION: All van parking spaces shall be permitted to be grouped on one level of a parking structure.

209 Passenger Loading Zones

209.1 General. Where passenger loading zones are provided, they shall comply with 503.

209.2 Medical Facilities. A passenger loading zone shall be provided at an *accessible entrance* to licensed medical and long-term care *facilities* where people receive physical or medical treatment or care and where the period of stay exceeds 24 hours.

209.3 Valet Parking: Valet parking services shall provide a passenger loading zone.

210 Stairways

210.1 General. Interior and exterior stairs that are part of a means of egress shall comply with 504.

EXCEPTION: In *alterations*, interior or exterior stairs between levels that are connected by an *accessible route* are not required to comply with 504.

210.2 Required Alterations. Where stair *alterations* are required by *building* and safety codes to correct unsafe conditions, the *alteration* shall comply with 504 unless *technically infeasible* or exempted by 210.1.

211 Drinking Fountains and Water Coolers

211.1 General. Where fixed drinking fountains or water coolers are provided, at least 50%, but not less than one, of such units provided on each floor shall comply with 602.

212 Sinks

212.1 General. Where sinks are provided, at least 5%, but not less than one, provided in *accessible spaces* shall comply with 606.

EXCEPTION: Mop or service sinks are not required to be *accessible*.

213 Toilet and Bathing Facilities

213.1 General. Where toilet or bathing *facilities* are provided, they shall comply with 213. Where toilet or bathing *facilities* are provided on an inaccessible level, toilet and bathing *facilities* shall also be provided on an *accessible* level.

213.2 Toilet and Bathing Rooms. Where toilet rooms are provided, each toilet room shall comply with 603. Where bathing rooms are provided, each bathing room shall comply with 603.

EXCEPTIONS: 1. In *alterations* where it is *technically infeasible* to comply with 603, altering existing toilet or bathing rooms is not required where a single unisex toilet room or bathing room complying with 213.2.1 is provided and located in the same area and on the same floor as existing inaccessible toilet or bathing rooms.

2. Where alternative requirements are permitted by 202.5 in *alterations* to *qualified historic buildings and facilities* and toilet rooms are provided, not less than one toilet room complying with 603 or a unisex room complying with 213.2.1 shall be provided.

3. Where multiple single user portable toilet or bathing units are clustered at a single location, at least 5%, but not less than one toilet unit or bathing unit at each cluster shall comply with 603. *Accessible* units shall be identified by the International Symbol of Accessibility complying with 703.7.

4. Where multiple single user toilet rooms are clustered at a single location and contain fixtures in excess of the minimum required number of plumbing fixtures, at least 5%, but not less than one room for each use at each cluster shall comply with 603. *Accessible* rooms shall be identified by the International Symbol of Accessibility complying with 703.7.

213.2.1 Unisex Toilet and Bathing Rooms. A unisex toilet room shall comply with 603, shall contain one water closet and one lavatory, and the door shall have a privacy latch. A unisex bathing room shall comply with 603 and shall contain at least one shower or bathtub.

213.2.2 Signs. Where existing toilet or bathing rooms are *altered* and not made *accessible*, directional *signs* indicating the location of the nearest *accessible* toilet or bathing room within the *facility* shall be provided. Such *signs* shall comply with 703.4 and shall include the International Symbol of Accessibility complying with 703.7. Where existing toilet or bathing rooms are *altered* and not made *accessible*, the *accessible* toilet or bathing room shall be identified by the International Symbol of Accessibility complying with 703.7.

213.3 Fixtures and Accessories. Plumbing fixtures and accessories provided in toilet or bathing rooms required to be *accessible* by 213.2 shall comply with 213.3.1 through 213.3.7.

213.3.1 Toilet Compartments. Where toilet compartments are provided, at least one shall be a wheelchair accessible compartment complying with 604.8.1. Where six or more toilet compartments are provided, an ambulatory accessible compartment complying with 604.8.2 shall be provided in addition to the compartment complying with 604.8.1. Water closets in such compartments shall comply with 604.

213.3.2 Water Closets. Where water closets are provided, but are not in toilet compartments, at least one shall comply with 604.

213.3.3 Urinals. Where urinals are provided, at least one shall comply with 605.

213.3.4 Lavatories. Where lavatories are provided, at least one shall comply with 606. Where only one *accessible* lavatory is provided, it shall not be located in a toilet compartment.

213.3.5 Mirrors. Where mirrors are provided, at least one shall comply with 603.3.

213.3.6 Controls and Dispensers. Where controls, dispensers, receptacles or other equipment is provided, at least one of each type shall comply with 309.

213.3.7 Bathing Facilities. Where bathtubs or showers are provided, at least one bathtub complying with 607 or at least one shower complying with 608 shall be provided.

214 Laundry Equipment

214.1 General. Where washing machines or clothes dryers are provided in *spaces* required to be *accessible*, at least one of each type shall comply with 611.

215 Fire Alarm Systems

215.1 General. Where fire alarm systems are provided in *public-use* or *common-use* areas to alert occupants, the alarm shall provide both audible and visual signals complying with 702. Guest rooms required by 224 to have *accessible* alarms shall comply with 702.3.6.

EXCEPTION: Visual alarms complying with 702 are not required in *alterations*, except where an existing fire alarm system is upgraded or replaced, or a new fire alarm system is installed.

216 Signs

216.1 General. *Signs* shall be provided in accordance with 216 and shall comply with 703.

216.2 Permanent Designations. Where exterior *signs* are provided as permanent designations of permanent interior rooms and *spaces* at the door to the *space* they serve, the *signs* shall be *tactile* and shall comply with 703.2. Where interior *signs* are provided as permanent designations of permanent interior rooms and *spaces*, the *signs* shall be *tactile* and shall comply with 703.2. Where *pictograms* are provided as permanent designations of permanent interior rooms and *spaces*, the *pictograms* shall comply with 703.6 and shall have *tactile* text descriptors complying with 703.2.

216.3 Directional and Informational Signs. *Signs* which provide direction to, or information about, permanent interior *spaces* of the *site* and *facilities* shall comply with 703.4.

EXCEPTION: Building directories, personnel names, company or occupant names and logos, menus and temporary *signs* are not required to comply with 703.4.

216.4 Exit Doors. Exit doors shall be identified by *tactile signs* complying with 703.2.

217 Telephones

217.1 General. Where public pay telephones, public *closed-circuit telephones*, or other types of public telephones are provided, *accessible* public telephones shall be provided in accordance with 217 for each type of public telephone provided. For purposes of this section, a bank of telephones shall be considered two or more adjacent telephones.

217.2 Wheelchair Accessible Telephones. Where public telephones are provided, wheelchair accessible telephones complying with 704.2 shall be provided in accordance with Table 217.2.

Table 217.2 Wheelchair Accessible Telephones

Number of Telephones Provided on a Floor or Level	Minimum Required Number of Wheelchair Accessible Telephones
1 or more single unit	1 per floor or level
1 bank	1 per floor or level
2 or more banks	1 per bank[1]

Note. 1. At least one telephone per floor shall provide a forward approach complying with 704.2.1.2, except for exterior installations where dial tone first service is available.

217.3 Volume Controls. All wheelchair accessible telephones required by 217.2 and 25 percent, but not less than one, of all other public telephones provided shall have volume control complying with 704.3. Such telephones shall be identified by *signs* containing *pictograms* of a telephone handset with radiating sound waves complying with 703.7.

EXCEPTION: *Pictograms* are not required where all public telephones have volume control.

217.4 TTYs. *TTYs* complying with 704.4 shall be provided in accordance with 217.4.1 through 217.4.8.

217.4.1 Bank Requirement. Where four or more public pay telephones are provided at a bank of telephones, at least one public *TTY* shall be provided at that bank.

EXCEPTION: *TTYs* are not required at banks of telephones located within 200 feet of, and on the same floor as, a bank containing a public *TTY*.

217.4.2 Floor Requirement. Where four or more public pay telephones are provided on a floor of a *building*, at least one public *TTY* shall be provided on that floor.

217.4.3 Building Requirement. Where four or more public pay telephones are provided in a *building*, at least one public *TTY* shall be provided in the *building*.

217.4.4 Site Requirement. Where four or more public pay telephones are provided on a *site*, at least one public *TTY* shall be provided on the *site*.

217.4.5 Rest Stops, Emergency Roadstops, and Service Plazas. Where a public pay telephone is provided at a public rest stop, emergency roadstop or service plaza, at least one public *TTY* shall be provided.

217.4.6 Hospitals. Where a public pay telephone is provided in or adjacent to a hospital emergency room, hospital recovery room, or hospital waiting room, at least one public *TTY* shall be provided at each such location.

217.4.7 Transportation Facilities. Transportation *facilities* shall be provided with *TTYs* in accordance with 1003.2.6 and 1004.2 in addition to the *TTYs* required by 217.4.1 through 217.4.4.

217.4.8 Signs. Public *TTYs* shall be identified by the International Symbol of TTY complying with 703.7. Directional *signs* indicating the location of the nearest public *TTY* shall be provided at all banks of public pay telephones not containing a public *TTY*. Such *signs* shall comply with 703.4 and shall include the International Symbol of TTY complying with 703.7.

217.5 Shelves for Portable TTYs. Where a bank of telephones in the interior of a *building* consists of three or more public pay telephones, at least one public pay telephone at the bank shall be provided with a shelf and an electrical outlet in accordance with 704.5.

218 Transportation Facilities

218.1 General. Transportation *facilities* shall comply with Chapter 10.

219 Assistive Listening Systems

219.1 General. Assistive listening systems shall be provided in accordance with 219 and shall comply with 706.

219.2 Required Systems. *Assembly areas* having fixed seating shall have an assistive listening system where the area is equipped with an audio amplification system or the area has a capacity of 50 or more persons. Other *assembly areas* shall have an assistive listening system, or an adequate number of electrical outlets or other supplementary wiring necessary to support a portable assistive listening system.

219.3 Receivers. Receivers complying with 706.4 shall be provided for assistive listening systems in accordance with Table 219.3. Twenty five percent of receivers, but not less than two, shall be hearing aid compatible in accordance with 706.5.

Table 219.3 Receivers for Assistive Listening Systems

Capacity of Fixed Seating in Assembly Area	Minimum Required Number of Receivers
50 or less	2
51 to 500	2, plus 4 for each total seating capacity increase of 100 above 51
501 to 1000	20, plus 3 for each total seating capacity increase of 100 above 501
1001 to 2000	35, plus 2 for each total seating capacity increase of 100 above 1001
over 2000	55, plus 1 for each total seating capacity increase of 100 above 2000

219.4 Signs. Where assistive listening systems are provided, *signs* shall be provided to inform patrons of the availability of the system. The *signs* shall be located at ticket offices or windows, where ticket offices or windows are provided. The *signs* shall comply with 703.4 and shall include the International Symbol of Access for Hearing Loss complying with 703.7.

220 Automatic Teller Machines and Fare Machines

220.1 General. Where automatic teller machines or self-service fare vending, collection, or adjustment machines are provided, at least one machine of each type at each location where such machines are provided shall comply with 707. Where bins are provided for envelopes, waste paper, or other purposes, at least one of each type shall comply with 905.

221 Wheelchair Spaces in Assembly Seating

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221.1 General. In assembly seating areas, *accessible wheelchair spaces* shall be provided in accordance with 221.

221.2 Number Required. *Accessible wheelchair spaces* shall be provided in accordance with Table 221.2 and shall comply with 802.

Table 221.2 Accessible Wheelchair Spaces

Capacity of Seating in Assembly Areas	Minimum Required Number of Wheelchair Spaces
50 or less	2
51 to 100	4
101 to 300	5
301 to 500	6
over 500	6, plus 1 additional space for each total seating capacity increase of 200

221.3 Wheelchair Space Clusters. *Accessible wheelchair spaces* shall be grouped in *wheelchair space clusters* in accordance with Table 221.3.

EXCEPTIONS: 1. In assembly seating areas where sightlines require more than one step for a rise in elevation between rows, the minimum required number of *wheelchair space clusters* in that area shall be one-half of that required by Table 221.3.

2. In *alterations*, where it is *technically infeasible* to disperse *wheelchair space clusters* in accordance with Table 221.3, the minimum required number of *wheelchair space clusters* shall be one-half of that required by Table 221.3.

Table 221.3 Wheelchair Space Clusters

Capacity of Seating in Assembly Areas	Minimum Required Number of Wheelchair Space Clusters
up to 300	1
301 to 600	2
601 to 900	3
901 to 1500	4
1501 to 2100	5
2101 to 3000	6
over 3000	6 plus 1 additional cluster for each 1000 seats or portion thereof.

221.4 Dispersion of Wheelchair Space Clusters.

221.4.1 General. Dispersion of *wheelchair space clusters* shall be based on the availability of *accessible routes* to various seating areas including seating at various levels in multi-level *facilities*.

221.4.2 Multi-Level Assembly Seating Areas. In multi-level assembly seating areas, *wheelchair space clusters* shall be provided on the main level and on one of each two additional levels.

EXCEPTION: In existing assembly seating areas with a *mezzanine*, where the main level provides three-fourths or more of the total seating capacity, *wheelchair space clusters* shall be permitted to be dispersed on the main level.

221.4.3 Separation Between Clusters. Wheelchair space clusters shall be separated by a minimum of five intervening rows or by a minimum of ten intervening seats. *Wheelchair spaces* within any one *wheelchair space cluster* shall not be separated by an intervening row, nor by more than two intervening seats, nor by more than a 7-inch (180 mm) vertical level change.

222 Dressing, Fitting and Locker Rooms

222.1 General. Where dressing rooms, fitting rooms, or locker rooms are provided, at least 5 percent, but not less than one, of each type of use in each cluster provided shall comply with 803.

EXCEPTION: In *alterations*, where it is *technically infeasible* to provide *accessible* rooms in accordance with 222.1, one room for each sex on each level shall be *accessible*. Where only unisex rooms are provided, an *accessible* unisex room shall be permitted.

223 Medical Care Facility Patient or Resident Sleeping Rooms

223.1 General. In licensed medical and long-term care *facilities* where people receive physical or medical treatment or care and where the period of stay exceeds twenty-four hours, *accessible* patient or resident sleeping rooms shall be provided in accordance with 223 and shall comply with 804.

223.1.1 Alterations. Where sleeping rooms are *altered* or *added*, the requirements of 223 shall apply only to the sleeping rooms being *altered* or *added*.

223.2 Hospitals. In general purpose hospitals, psychiatric *facilities* and detoxification *facilities*, at least 10 percent, but not less than one, of the patient sleeping rooms shall be *accessible*.

223.3 Rehabilitation Facilities. In hospitals and rehabilitation *facilities* that specialize in treating conditions that affect mobility, and in units within hospitals and rehabilitation *facilities* which specialize in treating conditions that affect mobility, 100 percent of the patient sleeping rooms shall be *accessible*.

223.4 Long Term Care Facilities. In long term care *facilities*, at least 50 percent, but not less than one, of the resident sleeping rooms shall be *accessible*.

224 Transient Lodging Guest Rooms

224.1 General. *Transient lodging facilities* shall provide guest rooms in accordance with 224.

224.1.1 Alterations. Where guest rooms are *altered* or *added*, the requirements of 224 shall apply only to the guest rooms being *altered* or *added*.

224.1.2 Guest Room Doors and Doorways. *Entrance* and passage doors and doorways into and within all guest rooms shall provide clear width complying with 404.2.3.

224.2 Accessible Guest Rooms. In *transient lodging facilities*, *accessible* guest rooms shall be provided in accordance with Table 224.2 and shall comply with 805.2

Table 224.2 Accessible Guest Rooms

Total Number of Guest Rooms Provided	Minimum Required Number of Accessible Rooms Without Roll-in Showers	Minimum Required Number of Accessible Rooms With Roll-in Showers	Total Number of Required Accessible Rooms
1 to 25	1	0	1
26 to 50	2	0	2
51 to 75	3	1	4
76 to 100	4	1	5
101 to 150	5	2	7
151 to 200	6	2	8
201 to 300	7	3	10
301 to 400	8	4	12
401 to 500	9	4	13
501 to 1000	2% of total	1% of total	3% of total
1001 and over	20 plus 1 for each 100 over 1000	10 plus 1 for each 100 over 1000	30 plus 2 for each 100 over 1000

224.3 Accessible Beds. In rooms or *spaces* having four or more beds, the number of beds in the room or *space* required to have clear floor *space* complying with 805.2.3 shall comply with Table 224.3

Table 224.3 Accessible Beds

Total Number of Beds in a Guest Room	Minimum Required Number of Accessible Beds
4 to 25	1
26 to 50	2
51 to 75	4
76 to 100	5
101 to 150	7
151 to 200	8
201 to 300	10
301 to 400	12
401 to 500	13
501 to 1000	3% of total
1001 and over	30 plus 2 for each 100 over 1000

224.4 Communication Features. In *transient lodging facilities*, guest rooms with *accessible* communication features shall be provided in accordance with Table 224.4 and shall comply with 805.3.

Table 224.4 Guest Rooms with Accessible Communication Features

Total Number of Guest Rooms Provided	Minimum Required Number of Guest Rooms with Accessible Communication Features
1 to 25	2
26 to 50	4
51 to 75	7
76 to 100	9
101 to 150	12
151 to 200	14
201 to 300	17
301 to 400	20
401 to 500	22
501 to 1000	5% of total
1001 and over	50 plus 3 for each 100 over 1000

224.5 Dispersion. Guest rooms required to comply with 805.2 and 805.3 shall be dispersed among the various classes of guest rooms.

225 Self-Service Storage Facilities

225.1 General. *Self-service storage facilities* shall provide *accessible* individual self-storage *spaces* in accordance with Table 225.1.

Table 225.1 Accessible Self-Service Storage Facilities

Total Spaces in Facility	Minimum Number of Required Accessible Spaces
1 to 200	5%, but not less than 1
201 and over	10, plus 2% of total number of units over 200

225.2 Dispersion. *Accessible* individual self-service storage *spaces* shall be dispersed throughout the various classes of *spaces* provided. Where more classes of *spaces* are provided than the number of required *accessible spaces*, the number of *accessible spaces* shall not be required to exceed that required by Table 225.1. *Accessible spaces* shall be permitted to be dispersed in a single *building* of a multi-building *facility*.

226 Seating at Tables, Counters and Work Surfaces

226.1 General. Where seating at fixed or built-in tables, counters or work surfaces is provided in *accessible spaces*, at least five percent, but not less than one, of the seating shall comply with 902.

226.2 Dining Counters. Where food or drink is served for consumption at counters exceeding 34 inches (865 mm) in height, a 60 inch (1525 mm) minimum length portion of the counter shall comply with 902, or service shall be provided at *accessible* tables in the same area.

226.3 Dispersion. In new construction, and where practicable in *alterations*, *accessible* fixed or built-in seating at tables, counters or work surfaces shall be distributed throughout the *space* or *facility* containing such *elements*.

227 Sales and Service Counters

227.1 General. Where sales and service counters are provided, they shall be *accessible* in accordance with 227.

227.2 Check-out Aisles. Where check-out aisles are provided, *accessible* check-out aisles shall be provided in accordance with Table 227.2. Where check-out aisles serve different functions, at least one *accessible* check-out aisle shall be provided for each function. Where check-out aisles are dispersed throughout the *building* or *facility*, *accessible* check-out aisles shall also be dispersed. Check-out aisles required to be *accessible* shall comply with 904.3.

EXCEPTIONS: 1. Where the area of the selling *space* is less than 5000 square feet (465 m^2), only one check-out aisle is required to be *accessible*.

2. Where check-out aisles are *altered* in *facilities* having a selling *space* of 5000 square feet (465 m^2) or more, at least one of each check-out aisle serving each function shall be made *accessible* until the number of *accessible* check-out aisles complies with 227.2.

Table 227.2 Accessible Check-out Aisles

Total Check-out Aisles of Each Function	Minimum Number of Accessible Check-out Aisles of Each Function
1-4	1
5-8	2
9-15	3
over 15	3, plus 20% of additional aisles

227.2.1 Identification. *Accessible* check-out aisles shall be identified by the International Symbol of Accessibility complying with 703.7, unless all check-out aisles in the *facility* are *accessible*. The *sign* shall be above the check-out aisle in the same location as the check-out aisle number or type of check-out identification.

227.3 Point of Sales and Service Counters. Where counters are provided for sales or distribution of goods or services, at least one of each type provided shall comply with 904.4. Where such counters are dispersed throughout the *building* or *facility*, the *accessible* counters shall also be dispersed.

EXCEPTION: In *alterations* where it is *technically infeasible* for existing counters to comply with 904.4, an auxiliary counter complying with 904.4 shall be provided.

227.4 Food Service Lines. Food service lines shall comply with 904.5. Where self-service shelves are provided, at least 50 percent, but not less than one, of each type provided shall comply with 308.

227.5 Queue and Waiting Lines. Queue and waiting lines servicing *accessible* counters or check-out aisles shall comply with 403.

228 Storage

228.1 General. Where fixed or built-in storage *elements* such as cabinets, shelves, medicine cabinets, closets, and drawers are provided in *accessible spaces*, at least one of each type shall comply with 905.

228.2 Lockers. Where lockers are provided in *accessible spaces*, at least five percent, but not less than one, of each type shall comply with 905.

228.3 Shelving and Display Units. Self-service shelves and display units in mercantile occupancies and shelving in stack areas of libraries shall be located on an *accessible route* complying with 402. Such shelving and display units shall not be required to comply with reach range provisions of 308.

228.4 Coat Hooks and Folding Shelves. Where coat hooks or folding shelves are provided in inaccessible toilet rooms, toilet compartments, or in dressing, fitting or locker rooms, at least one of each type shall be provided in *accessible* toilet rooms, toilet compartments and dressing, fitting and locker rooms.

228.5 Displays in Qualified Historic Buildings and Facilities. In *alterations* to *qualified historic buildings and facilities*, where alternative requirements of 202.5 are permitted, displays and written information shall be located where they can be seen by a seated person. Exhibits and *sign* displayed horizontally shall be 44 inches (1120 mm) maximum above the floor.

229 Vending Machines and Similar Equipment

229.1 General. In restaurants and cafeterias, *spaces* for vending machines and similar equipment shall comply with 304, 305 and 308.

CHAPTER 3: BUILDING BLOCKS

301 General

301.1 Scope. The provisions of this chapter apply where required by Chapter 2 or by Chapters 4 through 10.

302 Floor or Ground Surfaces

302.1 General. Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with 302.

302.2 Carpet. Carpet or carpet tile shall be securely attached and shall have a firm cushion, pad, or backing or no cushion or pad. Carpet or carpet tile shall have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Pile height shall be 1/2 inch (13 mm) maximum. Exposed edges of carpet shall be fastened to floor surfaces and shall have trim along the entire length of the exposed edge. Carpet edge trim shall comply with 303.

302.3 Openings. Openings in floor or ground surfaces shall be of a size that does not permit passage of a 1/2 inch (13 mm) diameter sphere, except as allowed in 407 and 408. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

303 Changes in Level

303.1 General. Where changes in level are permitted in floor or ground surfaces, they shall comply with 303.

303.2 Vertical. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

303.3 Beveled. Changes in level between 1/4 inch (6.4 mm) high minimum and 1/2 inch (13 mm) high maximum shall be beveled with a slope not steeper than 1:2.

303.4 Ramps. Changes in level greater than 1/2 inch (13 mm) high shall be ramped, and shall comply with 405 or 406.

304 Wheelchair Turning Space

304.1 General. Wheelchair turning space shall comply with 304.

304.2 Floor or Ground Surface. Floor or ground surfaces of a wheelchair turning space shall have a slope not steeper than 1:48 and shall comply with 302. Changes in level are not permitted.

304.3 Size. Wheelchair turning space shall comply with 304.3.1 or 304.3.2.

304.3.1 Circular Space. The wheelchair turning space shall be a *space* of 60 inches (1525 mm) diameter minimum. The *space* shall be permitted to include knee and toe clearance complying with 306.

304.3.2 T-shaped Space. The wheelchair turning space shall be a T-shaped *space* within a 60-inch (1525 mm) minimum square with arms and base 36 inches (915 mm) wide minimum. Each arm of the T shall be clear of obstructions 12 inches (305 mm) minimum in each direction and the base shall be clear of obstructions 24 inches (610 mm) minimum. Such *space* shall be permitted to include knee and toe clearance complying with 306 only at the end of either the base or one arm.

304.4 Doors. Unless otherwise specified, doors shall not be prohibited from swinging into a wheelchair turning space.

305 Clear Floor or Ground Space

305.1 General. Clear floor or ground space shall comply with 305.

305.2 Floor or Ground Surfaces. Floor or ground surfaces of a clear floor or ground space shall have a slope not steeper than 1:48 and shall comply with 302. Changes in level are not permitted.

305.3 Size. The clear floor or ground space shall be 30 inches (760 mm) minimum by 48 inches (1220 mm) minimum.

305.4 Knee and Toe Clearance. Unless otherwise specified, clear floor or ground space shall be permitted to include knee and toe clearance complying with 306.

305.5 Position. Unless otherwise specified, clear floor or ground space shall be positioned for either forward or parallel approach to an *element*.

305.6 Approach. One full unobstructed side of the clear floor or ground space shall adjoin or overlap an *accessible route* or adjoin another clear floor or ground space.

305.7 Maneuvering Clearance. Where a clear floor or ground space is located in an alcove or otherwise confined on all or part of three sides, additional maneuvering clearance complying with 305 shall be provided in accordance with 305.7.1 and 305.7.2.

305.7.1 Forward Approach. Where the depth of the alcove or other restriction exceeds 24 inches (610 mm), the width of the clear floor space shall be 36 inches (915 mm) minimum.

305.7.2 Parallel Approach. Where the depth of the alcove or other restriction exceeds 15 inches (380 mm), the length of the clear floor space shall be 60 inches (1525 mm) minimum.

306 Knee and Toe Clearance

306.1 General. Where *space* beneath an object is included as part of clear floor or ground space or wheelchair turning space, the *space* shall comply with 306. Additional *space* shall not be prohibited beneath an object; however, such additional *space* shall not be considered as part of the clear floor or ground space or wheelchair turning space.

306.2 Toe Clearance

306.2.1 General. *Space* under an object between the floor or ground and 9 inches (230 mm) above the floor or ground shall be considered toe clearance and shall comply with 306.2.

306.2.2 Maximum Depth. Toe clearance shall extend 25 inches (635 mm) maximum under an object.

306.2.3 Minimum Required Depth. Where toe clearance is required at an *element* as part of a clear floor space, the toe clearance shall extend 17 inches (430 mm) minimum beneath the *element*.

306.2.4 Additional Clearance. *Space* extending greater than 6 inches (150 mm) beyond the available knee clearance at 9 inches (230 mm) above the floor or ground shall not be considered toe clearance.

306.2.5 Width. Toe clearance shall be 30 inches (760 mm) minimum in width.

306.3 Knee Clearance.

306.3.1 General. *Space* under an object between 9 inches (230 mm) and 27 inches (685 mm) above the floor or ground shall be considered knee clearance and shall comply with 306.3.

306.3.2 Maximum Depth. Knee clearance shall extend 25 inches (635 mm) maximum under an object at 9 inches (230 mm) above the floor or ground.

306.3.3 Minimum Required Depth. Where knee clearance is required beneath an *element* as part of a clear floor space, the knee clearance shall be 11 inches (280 mm) minimum in depth at 9 inches (230 mm) above the floor or ground, and 8 inches (205 mm) minimum in depth at 27 inches (685 mm) above the floor or ground.

306.3.4 Clearance Reduction. Between 9 inches (230 mm) and 27 inches (685 mm) above the floor or ground, the knee clearance shall be permitted to reduce at a rate of 1 inch (25 mm) for each 6 inches (150 mm) in height.

306.3.5 Width. Knee clearance shall be 30 inches (760 mm) minimum in width.

307 Protruding Objects

307.1 General. Protruding objects shall comply with 307.

307.2 Protrusion Limits. Objects with leading edges located more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the floor or ground shall

protrude from the wall 4 inches (100 mm) maximum into the *circulation path*.

EXCEPTION: Handrails serving stairs and *ramps* shall protrude 4-1/2 inches (115 mm) maximum from the wall.

307.3 Post-mounted Objects. Free-standing objects mounted on posts or pylons shall overhang 12 inches (305 mm) maximum when located 27 inches (685 mm) minimum and 80 inches (2030 mm) maximum above the floor or ground. Where a *sign* or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches (305 mm), the lowest edge of such *sign* or obstruction shall be 27 inches (685 mm) maximum or 80 inches (2030 mm) minimum above the floor or ground.

EXCEPTION: This requirement shall not apply to sloping portions of handrails serving stairs and *ramps*.

307.4 Reduced Vertical Clearance. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrail or barrier shall be located 27 inches (685 mm) maximum above the floor or ground.

307.5 Required Clear Width. Protruding objects shall not reduce the clear width required for *accessible routes*.

308 Reach Ranges

308.1 General. Reach ranges shall comply with 308.

308.2 Forward Reach.

308.2.1 Unobstructed. Where a clear floor or ground space allows only a forward approach to an object and is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the floor or ground.

308.2.2 Obstructed High Reach. Where a clear floor or ground space allows only a forward approach to an object and the high forward reach is over an obstruction, the clear floor space shall extend beneath the object for a distance not less than the required reach depth over the obstruction. The high forward reach shall be 48 inches (1220 mm) maximum for a reach depth of 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1120 mm) maximum for a reach depth of 25 inches (635 mm) maximum.

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an object and the depth of any obstruction between the clear floor or ground space and the object is 10 inches (255 mm) maximum, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the floor or ground.

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an object and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

309 Controls and Operating Mechanisms

309.1 General. *Controls and operating mechanisms* shall comply with 309.

309.2 Clear Floor Space. A clear floor or ground space complying with 305 shall be provided.

309.3 Height. *Controls and operating mechanisms* shall be placed within one or more of the reach ranges specified in 308.

EXCEPTION: This requirement does not apply where the use of special equipment dictates otherwise or where electrical and communications systems receptacles are not normally intended for use by building occupants.

309.4 Operation. *Controls and operating mechanisms* shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate *controls and operating mechanisms* shall be 5 lb (22.2 N) maximum.

CHAPTER 4: ACCESSIBLE ROUTES AND ACCESSIBLE MEANS OF EGRESS

401 General

401.1 Scope. *Accessible routes* and *accessible means of egress* required by Chapter 2 shall comply with the applicable provisions of this chapter.

402 Accessible Routes

402.1 General. *Accessible routes* shall comply with 402.

402.2 Components. *Accessible routes* shall consist of one or more of the following components: Walking surfaces with a slope not steeper than 1:20, doorways, *ramps*, elevators and platform (wheelchair) lifts. All components of an *accessible route* shall comply with the applicable portions of this chapter.

403 Walking Surfaces

403.1 General. Walking surfaces that are a part of an *accessible route* shall comply with 403.

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.

403.3 Slope. The *running slope* of walking surfaces shall be not steeper than 1:20. The *cross slope* of walking surfaces shall not be steeper than 1:48.

403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clear Width. The clear width of walking surfaces shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum, provided that multiple 32 inch (815 mm) wide segments are separated by segments that are 48 inch (1220 mm) minimum in length and 36 inch (915 mm) minimum in width.

403.5.1 Clear Width at Turn. Where the *accessible route* makes a 180 degree turn around an object which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum during the turn and 42 inches (1065 mm) leaving the turn.

403.5.2 Passing Spaces. An *accessible route* with a clear width less than 60 inches (1525 mm) shall provide passing *spaces* at intervals of 200 feet (61 m) maximum. Passing *spaces* shall be either a 60 inch (1525 mm) minimum by 60 inch (1525 mm) minimum *space*, or an intersection of two walking surfaces which provide a T-shaped *space* complying with 304.

403.5.3 Protruding Objects. Protruding objects shall comply with 307. Protruding objects shall not reduce the required clear width.

404 Doors and Doorways

404.1 General. Doors and doorways that are part of an *accessible route* shall comply with 404.

404.2 Manual Doors and Doorways. Manual doors and doorways and manual gates, including ticket gates, shall comply with 404.2.1 through 404.2.11.

404.2.1 Revolving Doors and Turnstiles. Revolving doors and revolving turnstiles shall not be part of an *accessible route*.

404.2.2 Double-Leaf Doors. At least one of the active leaves of doorways with two independently operated leaves shall comply with 404.2.3 and 404.2.4.

404.2.3 Clear Width. Doorways shall have a clear opening of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) in depth shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the floor or ground. Projections into the clear opening width between 34 inches (865 mm) and 80

inches (2030 mm) above the floor or ground shall not exceed 4 inches (100 mm).

EXCEPTION: In *alterations* where it is *technically infeasible* to comply with clear opening width requirements, a projection of 5/8 inch (16 mm) maximum into the required clear width shall be permitted for the latch side stop.

404.2.4 Maneuvering Clearances.

404.2.4.1 Swinging Doors. Approaches to swinging doors shall have maneuvering clearances complying with Table 404.2.4.1.

Table 404.2.4.1 Maneuvering Clearances at Manual Swinging Doors.

TYPE OF USE		MINIMUM MANEUVERING CLEARANCE [1]	
Approach Direction	Door Side	Perpendicular to Doorway	Parallel to Doorway [2] (beyond latch side unless noted)
From front	Pull	60 inches (1525 mm)	18 inches (455 mm)
From front	Push	48 inches (1220 mm)	0 inches (0 mm) [3]
From hinge side	Pull	60 inches (1525 mm)	36 inches (915 mm)
From hinge side	Pull	54 inches (1370 mm)	42 inches (1065 mm)
From hinge side	Push	42 inches (1065 mm) [4]	22 inches (560 mm) beyond hinge side
From latch side	Pull	48 inches (1220 mm) [5]	24 inches (610 mm)
From latch side	Push	42 inches (1065 mm) [5]	24 inches (610 mm)

Notes:

1. Maneuvering clearance shall include the full width of the doorway.
2. Doors to hospital patient sleeping rooms are exempt from the clearance beyond the latch side of the door provided the door is 44 inches (1120 mm) wide minimum.
3. Add 12 inches (305 mm) if closer and latch are provided.
4. Add 6 inches (150 mm) if closer and latch are provided.
5. Add 6 inches (150 mm) if closer and latch are provided.

404.2.4.2 Doorways without Doors, Sliding Doors and Folding Doors. Approaches to doorways without doors which are less than 36 inches (915 mm) wide and approaches to sliding and folding doors shall have maneuvering clearances complying with Table 404.2.4.2.

Table 404.2.4.2 Maneuvering Clearances at Doorways without Doors, Manual Sliding Doors, and Manual Folding Doors.

	MINIMUM MANEUVERING CLEARANCE [1]	
Approach Direction	Perpendicular to Doorway	Parallel to Doorway [2] (beyond stop/latch side unless noted)
From Front	48 inches (1220 mm)	0 inches (0 mm)
From side (doorway with no door only)	42 inches (1065 mm)	0 inches (0 mm)
From pocket/hinge side	42 inches (1065 mm)	22 inches (560 mm) beyond pocket/hinge side
From stop/latch side	42 inches(1065 mm)	24 inches (610 mm)

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Notes:
1. Maneuvering clearance shall include the full width of the doorway.
2. Doors to hospital patient sleeping rooms are exempt from the clearance beyond the stop/latch side of the door provided the door is 44 inches (1120 mm) wide minimum.

404.2.4.3 Doors in Alcoves. Doors in alcoves where the plane of the doorway is offset more than 8 inches (205 mm) from the plane of the wall shall provide maneuvering clearances for front approach.

404.2.4.4 Floor or Ground Surface. Floor or ground surface within required maneuvering clearances shall have a slope of 1:48 maximum and shall comply with 302. Changes in level are not permitted.

404.2.5 Thresholds. Thresholds if provided at doorways shall be 1/2 inch (13 mm) maximum in height. Raised thresholds and changes in level at doorways shall comply with 302 and 303.

EXCEPTION: This requirement shall not apply to existing or *altered* thresholds 3/4 inch (19 mm) high maximum that have a beveled edge on each side.

404.2.6 Two Doors in Series. The distance between two hinged or pivoted doors in series shall be 48 inches (1220 mm) minimum plus the width of any door swinging into the *space*. Doors in series shall swing either in the same direction or away from the *space* between the doors.

404.2.7 Door Hardware. Handles, pulls, latches, locks, and other operable parts on *accessible* doors shall comply with 309.4. Such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the floor or ground. When sliding doors are in the fully open position, operating hardware shall be exposed and usable from both sides.

EXCEPTION: Locks used only for security purposes and not used for normal operation are permitted in any location.

404.2.8 Closing Speed.

404.2.8.1 Door Closers. Door closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to an open position of 12 degrees is 5 seconds minimum.

404.2.8.2 Spring Hinges. Door spring hinges shall be adjusted so that from the open position of 70 degrees, the door shall move to the closed position in 1.5 seconds minimum, measured under ambient conditions.

404.2.9 Door Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate *administrative authority*. The required force for pushing or pulling open a door other than fire doors shall be as follows:

1. Interior hinged doors: 5 lb (22.2 N) maximum.
2. Sliding or folding doors: 5 lb (22.2 n) maximum.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door in a closed position.

404.2.10 Door Surface. The bottom 10 inches (255 mm) of all swinging doors shall have a smooth surface on the push side and extending the full width of the door. Parts creating horizontal or vertical joints in such surface shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added kick plates shall be capped.

EXCEPTIONS:

1. This requirement shall not apply to sliding doors.

2. Tempered glass doors without stiles and having a bottom rail or shoe with the top leading edge tapered at 60 degrees minimum from the horizontal shall not be required to meet the 10 inch (255 mm) bottom rail height requirement.

3. This requirement shall not apply to doors that do not extend to within 10 inches (255 mm) of the floor or ground.

404.2.11 Vision Lites. Doors, and sidelites adjacent to doors, containing one or more glazing panels that permit viewing through the panels shall have the

bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the floor.

404.3 Automatic Doors. *Automatic doors* and automatic gates shall comply with 404.3.1 through 404.3.6. Full-powered *automatic doors* shall comply with ANSI/BHMA A156.10. Low-energy and *power-assisted doors* shall comply with ANSI/BHMA A156.19.

404.3.1 Clear Width. Doorways shall have a clear opening of 32 inches (815 mm) minimum in power-on and power-failure mode. The minimum clear width for *automatic door* systems shall be based on the clear opening provided by all leafs in the open position.

404.3.2 Maneuvering Clearance. Clearances at *power-assisted doors* shall comply with 404.2.4.

404.3.3 Thresholds. Thresholds and changes in level at doorways shall comply with 404.2.5.

404.3.4 Two Doors in Series. Doors in series shall comply with 404.2.6.

404.3.5 Controls and Operating Mechanisms. Control switches shall comply with 309.

404.3.6 Signs. Labels and warnings for *automatic doors* shall comply with 703.4.

405 Ramps

405.1 General. Walking surfaces on *accessible routes* with a *running slope* steeper than 1:20 are *ramps* and shall comply with 405.

405.2 Slope. *Ramp* runs shall have a *running slope* not steeper than 1:12.

EXCEPTIONS: 1. *Ramps* in or on existing *buildings* or *facilities* shall be permitted to have slopes steeper than 1:12 complying with Table 405.2 where such slopes are necessitated by *space* limitations.

2. In *alterations* to *qualified historic buildings and facilities* where alternative requirements are permitted by 202.5, the slope of a *ramp* run of 24 inches (610 mm) maximum shall not be steeper than 1:6.

Table 405.2 Maximum Ramp Slope and Rise for Existing Sites, Buildings and Facilities.

Slope [1]	Maximum Rise
Steeper than 1:10 but not steeper than 1:8	3 inches (75 mm)
Steeper than 1:12 but not steeper than 1:10	6 inches (150 mm)

Notes:

1. A slope steeper than 1:8 is prohibited.

405.3 Cross Slope. *Cross slope* of *ramp* runs shall not be steeper than 1:48.

405.4 Floor or Ground Surfaces. Floor or ground surfaces of *ramp* runs shall comply with 302. Changes in level other than the *running slope* and *cross slope* are not permitted on *ramp* runs.

405.5 Clear Width. The clear width of a *ramp* run and the clear width between handrails, if provided, shall be 36 inches (915 mm) minimum.

405.6 Rise. The rise for any *ramp* run shall be 30 inches (760 mm) maximum.

405.7 Landings. *Ramps* shall have landings at bottom and top of each *ramp* run. Landings shall comply with 405.7.1 through 405.7.5.

405.7.1 Slope. Landings shall have a slope not steeper than 1:48 and shall comply with 302. Changes in level are not permitted.

405.7.2 Width. The landing shall be at least as wide as the widest *ramp* run leading to the landing.

405.7.3 Length. The landing length shall be 60 inches (1525 mm) minimum.

405.7.4 Change in Direction. *Ramps* that change direction between runs at landings shall have a 60 inch (1525 mm) minimum by 60 inch (1525 mm) minimum landing.

405.7.5 Doorways. Where doorways are located adjacent to a *ramp* landing, maneuvering clearances required by 404.2.4 and 404.3.2 shall be permitted to overlap the required landing area.

405.8 Handrails. *Ramp* runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of *ramp* runs and at each side of *ramp* landings.

EXCEPTIONS:

1. Edge protection is not required on *ramps* that are not required to have handrails and have sides complying with 406.3.

2. Edge protection is not required on the sides of *ramp* landings serving an adjoining *ramp* run or stairway.

3. Edge protection is not required on the sides of *ramp* landings having a vertical drop-off of 1/2 inch (13 mm) maximum within 10 inches (255 mm) horizontally of the minimum landing area.

405.9.1 Extended Floor or Ground Surface. The floor or ground surface of the *ramp* run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505.

405.9.2 Guard, Curb or Barrier. A guard, curb or barrier shall be provided that prevents the passage of a 4 inch (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the floor or ground surface.

405.10 Outdoor Conditions. Outdoor *ramps* and outdoor approaches to *ramps* shall be designed so that water will not accumulate on walking surfaces.

406 Curb Ramps

406.1 General. *Curb ramps* on *accessible routes* shall comply with 406 and with 405.2, 405.4, 405.5 and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the *curb ramp* shall not be steeper than 1:20. The adjacent surfaces at transitions at *curb ramps* to *walks*, gutters and streets shall be at the same level.

406.3 Sides of Curb Ramps. *Curb ramps* located where pedestrians must walk across the *ramp* shall have flared sides. Slope of the flares shall not be steeper than 1:10. Where the width of the walking surface at the top of the *ramp* and parallel to the run of the *ramp* is less than 48 inches (1220 mm) wide, the flared sides shall have a slope not steeper than 1:12. *Curb ramps* with returned curbs shall be permitted where pedestrians would not normally walk across the *ramp*.

406.4 Handrails. Handrails are not required on *curb ramps*.

406.5 Location at Marked Crossings. *Curb ramps* at *marked crossings* shall be wholly contained within the markings, excluding any flared sides.

406.6 Diagonal Curb Ramps. Diagonal or corner type *curb ramps* with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal *curb ramps* shall have 48 inches (1220 mm) minimum of clear *space*. Diagonal *curb ramps* provided at *marked crossings* shall provide the 48 inches (1220 mm) minimum clear *space* within the markings. Diagonal *curb ramps* with flared sides shall have a segment of straight curb 24 inches (610 mm) long minimum located on each side of the *curb ramp* and within the *marked crossing*.

406.7 Islands. Raised islands in crossings shall be cut through level with the street or have *curb ramps* at both sides and shall have a level area at least 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum in the part of the island intersected by the crossings.

407 Elevators

407.1 General. New elevators required to be *accessible* shall comply with 407.2. New *destination-oriented elevators* required to be *accessible* shall comply with 407.3. New limited use/limited application elevators required to be *accessible* shall comply with 407.4. *Altered elements* of existing elevators shall comply with 407.5.

407.2 New Elevators. New *accessible* elevators shall comply with 407.2.1 through 407.2.13 and with ASME/ANSI A17.1. They shall be passenger elevators as classified by ASME/ANSI A17.1.

407.2.1 Automatic Operation. Elevator operation shall be automatic. Each car shall be equipped with

a self-leveling feature that will automatically bring and maintain the car at floor landings within a tolerance of 1/2 inch (13 mm) under rated loading to zero loading conditions.

407.2.2 Call Buttons. Call buttons in elevator lobbies and halls shall be located vertically between 35 inches (890 mm) and 48 inches (1220 mm) above the floor, measured to the centerline of the button. A clear floor space complying with 305 shall be provided. Such call buttons shall have visible signals to indicate when each call is registered and when each call is answered. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension. The button that designates the up direction shall be located above the button that designates the down direction. Buttons shall be raised or flush. Objects located beneath hall call buttons shall protrude 4 inches (100 mm) maximum into the clear floor space.

407.2.3 Hall Signals. A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call and the direction of travel. Alternatively, in-car signals shall be located in cars, visible from the floor area adjacent to the hall call buttons, and shall comply the requirements of this section.

407.2.3.1 Audible Signals. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that state the word "up" or "down." Audible signals or verbal annunciators shall have a frequency of 1500 Hz maximum. The audible signal or verbal annunciator shall be 20 dBA minimum and 80 dBA maximum, measured at the annunciator.

407.2.3.2 Visible Signals. Visible signals shall comply with 407.2.3.2.1 through 407.2.3.2.3.

407.2.3.2.1 Height. Hall signal fixtures shall be centered at 72 inches (1830 mm) minimum above the floor or ground.

407.2.3.2.2 Size. The visible signal *elements* shall be 2-1/2 inches (64 mm) minimum in the smallest dimension.

407.2.3.2.3 Visibility. Signals shall be visible from the floor area adjacent to the hall call button.

407.2.4 Tactile Signs on Hoistway Entrances. *Tactile character* and Braille floor designations shall be provided on both jambs of elevator hoistway entrances and shall be 60 inches (1525 mm) above the floor, measured from the baseline of the *characters*. A *tactile* star shall also be provided on both jambs at the main entry level. Such *characters* shall be 2 inches (51 mm) high and shall comply with 703.2.

407.2.5 Doors. Elevator doors shall be the horizontal type. Elevator hoistway and car doors shall open and close automatically. Elevator doors shall be provided with a reopening device that shall stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person. The device shall be activated by sensing an obstruction passing through the opening at 5 inches (125 mm) and 29 inches (735 mm) above the floor. The device shall not require physical contact to be activated, although contact may occur before the door reverses. Door reopening devices shall remain effective for 20 seconds minimum.

407.2.6 Door and Signal Timing for Hall Calls. The minimum acceptable time from notification that a car is answering a call or designation of which car is assigned to a lobby destination floor entry until the doors of that car start to close shall be calculated from the following equation:

$T = D/(1.5 \text{ ft/s})$ or $T = D/(455 \text{ mm/s}) = 5$ seconds minimum

where T equals the total time in seconds and D equals the distance (in feet or millimeters) from the point in the lobby or corridor 60 inches (1525 mm) directly in front of the farthest call button controlling that car to the centerline of its hoistway door. For cars with in-car lanterns, T begins when the signal is visible from the point 60 inches (1525 mm) directly in front of the farthest hall call button and the audible signal is sounded.

407.2.7 Door Delay for Car Calls. Elevator doors shall remain fully open in response to a car call for 3 seconds minimum.

407.2.8 Inside Dimensions of Elevator Cars. Clear width of elevator doors and inside dimensions of elevator cars shall comply with Table 407.2.8.

Table 407.2.8 Elevator Door and Car Sizes

	Minimum Dimensions			
Door Location	Door Clear Width	Inside Car, Side to Side	Inside Car, Back Wall to Front Return	Inside Car, Back Wall to Inside Face of Door
Centered	42 inches (1065 mm)	80 inches (2030 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Side (Off-centered)	36 inches (915 mm)[1]	68 inches (1725 mm)	51 inches (1295 mm)	54 inches (1370 mm)
Any	36 inches (915 mm)[1]	54 inches (1370 mm)	80 inches (2030 mm)	80 inches (2030 mm)
Any	36 inches (915 mm)[1]	60 inches (1525 mm)[2]	60 inches (1525 mm)[2]	60 inches (1525 mm)[2]

Notes:

1. A tolerance of minus 5/8 inch (16 mm) is permitted.
2. Other car configurations that provide a wheelchair turning space complying with 304 with the door closed are permitted.

407.2.9 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302. The clearance between the car platform sill and the edge of any hoistway landing shall be 1-1/4 inch (32 mm) maximum.

407.2.10 Illumination Levels. The level of illumination at the car controls, platform, car threshold and car landing sill shall be 5 footcandles (54 lux) minimum.

407.2.11 Car Controls. Elevator controls shall comply with 407.2.11.1 through 407.2.11.4.

407.2.11.1 Buttons. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension. Buttons shall be raised or flush. Buttons shall be arranged with numbers in ascending order. When two or more columns of buttons are provided they shall read from left to right. Keypads, where provided, shall be in a standard telephone keypad arrangement.

407.2.11.2 Designations and Indicators for Control Buttons. Control buttons shall be identified by *tactile characters* complying with 703.2. *Characters* and Braille shall be placed immediately to the left of the button to which the designations apply. The control button for the main entry floor and control buttons, other than remaining buttons with floor designations, shall be identified with *tactile* symbols as shown in Table 407.2.11.2. Buttons with floor designations shall be provided with visible indicators to show that a call has been registered. The visible indication shall extinguish when the car arrives at the designated floor. Where provided, telephone-style keypad buttons shall be identified by *tactile characters* complying with 703.2 except that Braille is not required. *Characters* shall be centered on the corresponding keypad button.

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Table 407.2.11.2 Elevator Control Button Identification

Control Button	Tactile Symbol	Braille Message
Emergency Stop	[insert symbol]	[insert symbol] "ST"OP Three cells
Alarm	[insert symbol]	[insert symbol] AL"AR"M Four cells
Door Open	[insert symbol]	[insert symbol] OP"EN" Three cells
Door Close	[insert symbol]	[insert symbol] CLOSE Five cells
Main Entry Floor	[insert symbol]	[insert symbol] MA"IN" Three cells
Phone	[insert symbol]	[insert symbol] PH"ONE" Four cells

407.2.11.3 Height. Buttons with floor designations shall be located 48 inches (1220 mm) maximum above the floor. Emergency controls, including the emergency alarm, shall be grouped at the bottom of the panel. Emergency control buttons shall have their centerlines 35 inches (890 mm) minimum above the floor.

EXCEPTION: Where the elevator serves more than 16 openings and parallel approach is provided, buttons with floor designations shall be located 54 inches (1370 mm) maximum above the floor.

407.2.11.4 Location. Controls shall be located to accommodate a forward reach or side reach as specified in 308.

407.2.12 Car Position Indicators. In elevator cars, audible and visible car location indicators shall be provided.

407.2.12.1 Visible Indicators. Indicator shall be located above the car control panel or above the door. Numerals shall be 1/2 inch (13 mm) high minimum. As the car passes a floor and when a car stops at a floor served by the elevator, the corresponding *character* shall illuminate.

407.2.12.2 Audible Indicators. The audible signal shall be 20 dBA minimum and 80 dBA maximum, measured at the annunciator, and shall have a frequency of 1500 Hz maximum. The signal shall be an automatic verbal announcement which announces the floor at which the car has stopped except an audible signal which sounds as the car passes or stops at a floor served by the elevator shall be acceptable for elevators with a rated speed of 200 feet per minute (1.02 m/s) or less.

407.2.13 Emergency Communications. Emergency two-way communication systems between the elevator car and a point outside the hoistway shall comply with ASME/ANSI A17.1. The highest operable part of a two-way communication system shall be 48 inches (1220 mm) maximum above the floor. The device shall be identified by *tactile characters* complying with 703.2 located adjacent to the device. If the system uses a handset, the cord from the panel to the handset shall be at least 29 inches (735 mm) minimum. The car emergency signaling device shall not be limited to voice communication. If instructions for use are provided, essential information shall be presented in both *tactile* and visual form.

407.3 New Destination-Oriented Elevators. New *accessible destination-oriented elevators* shall comply with 407.2.1, 407.2.4 through 407.2.10, and 407.2.13. Such elevators shall also comply with 407.3.1 through 407.3.5 and ASME/ANSI A17.1. They shall be passenger elevators as classified by ASME/ANSI A17.1.

407.3.1 Call Buttons. Call buttons shall be located vertically between 35 inches (890 mm) and 48 inches (1220 mm) above the floor, measured to the centerline of the button. A clear floor space complying with 305 shall be provided. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension. Buttons shall be raised or flush. Objects located beneath hall call buttons shall protrude 4 inches (100 mm) maximum into the clear floor space. A keypad or other means for the entry of destination information shall be provided. Keypads, where provided, shall be in a standard telephone keypad arrangement. Visible and audible signals which indicate which elevator car to enter shall be provided.

407.3.2 Hall Signals. A visible and audible signal shall be provided to indicate a car destination corresponding with 407.3.1. The audible tone and verbal announcement shall be the same as those given at the call button or call button keypad. Each elevator in a bank shall have audible and visible means for differentiation.

407.3.2.1 Visible Signals. Visible signals shall comply with 407.3.2.1.1 through 407.3.2.1.3.

407.3.2.1.1 Height. Hall signal fixtures shall be centered at 72 inches (1830 mm) minimum above the floor or ground.

407.3.2.1.2 Size. The visible signal *elements* shall be 2-1/2 inches (64 mm) minimum in the smallest dimension.

407.3.2.1.3 Visibility. Signals shall be visible from the floor area adjacent to the hoistway entrance.

407.3.3 Car Controls. Emergency controls, including the emergency alarm, shall have their centerlines 35 inches (890 mm) minimum and 48 inches (1220 mm) maximum above the floor. Buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension. Buttons shall be raised or flush. Controls shall be located to accommodate a forward reach or side reach as specified in 308.

407.3.4 Car Position Indicators. In elevator cars, audible and visible car location indicators shall be provided.

407.3.4.1 Visible Indicators. Indicators shall be located above the car control panel or above the door. Numerals shall be 1/2 inch (13 mm) high minimum. A display shall be provided in the car with visible indicators to show car destinations. The visible indicators shall extinguish when the call has been answered.

407.3.4.2 Audible Indicators. An automatic verbal announcement which announces the floor at which the car has stopped shall be provided. The announcement shall be 20 dBA minimum and 80 dBA maximum, measured at the annunciator.

407.3.5 Elevator Car Identification. In addition to the *tactile signs* required by 407.2.4, a *tactile* elevator car identification shall be placed immediately below the hoistway entrance floor designation. The *characters* shall be 2 inches (51 mm) high and shall comply with 703.2.

407.4 New Limited-Use/Limited-Application Elevators. New *accessible* limited-use/limited application elevators shall comply with 407.4.1 through 407.4.10 and shall comply with ASME/ANSI A17.1, Part XXV.

407.4.1 Automatic Operations. Elevator operation shall be automatic. Each car shall automatically stop at a floor landing within a tolerance of 1/2 inch (13 mm) under rated loading to zero loading conditions.

407.4.2 Call Buttons. Call buttons in elevator lobbies and halls shall be located vertically between 35 inches (890 mm) and 48 inches (1220 mm) above the floor, measured to the centerline of the button. Such call buttons shall have visible signals to indicate when each call is registered and when each call is answered. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension, and shall be raised or flush. The button that designates the up direction shall be located above the button that designates the down direction. Objects located beneath hall call buttons shall protrude into the floor area adjacent to the hoistway entrance 4 inches (100 mm) maximum.

407.4.3 Hall Signals. A visible and audible signal complying with 407.2.3 shall be provided in the car or at each hoistway entrance to indicate the direction of travel.

407.4.4 Tactile Signs on Hoistway Entrances. *Tactile character* and Braille floor designations shall be provided on both jambs of elevator hoistway entrances and shall be 60 inches (1525 mm) above the floor measured from the baseline of the *characters*. Such *characters* shall be 2 inches (51 mm) high and shall comply with 703.2.

407.4.5 Doors. Elevator hoistway doors shall be either swinging or horizontally sliding type. Elevator hoistway and car doors shall open and close automatically. Horizontally sliding type hoistway and car doors shall comply with 407.2.5. Swinging hoistway doors shall conform to 404. Swinging

doors shall be low energy power-operated and shall comply with ANSI/BHMA A156.1.9 Power operated swing doors shall remain open for 20 seconds minimum when activated.

407.4.6 Inside Dimensions of Elevator Cars. Elevator cars shall provide a clear width of 42 inches (1065 mm) minimum and a clear depth of 54 inches (1370 mm) minimum. For installations in existing *buildings*, elevator cars shall provide a clear width of 36 inches (915 mm) minimum, a clear depth of 54 inches (1370 mm) minimum, and a net clear platform area of 15 square feet (1.4 m^2) minimum. Car doors shall be positioned at the narrow end of the car and shall provide a clear width of 32 inches (815 mm) minimum.

407.4.7 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302. The horizontal distance between the car platform sill and the edge of any hoistway landing shall be 1-1/4 inches (32 mm) maximum.

407.4.8 Illumination Levels. The level of illumination at the car controls, platform, and car threshold and landing sill shall be 5 footcandles (53.8 lux) minimum.

407.4.9 Car Controls. Elevator controls shall comply with 407.2.11.1 through 407.2.11.3. Controls shall be centered on a side wall and shall comply with 309.

407.4.10 Emergency Communications. Car emergency signaling devices complying with 407.2.13 shall be provided.

407.5 Existing Elevators. *Altered elements* of existing *destination-oriented elevators* shall comply with 407.3. *Altered elements* of existing limited-use/limited-application elevators shall comply with 407.4. *Altered elements* of all other existing elevators shall comply with 407.2.1, 407.2.4, 407.2.6, 407.2.7, 407.2.9, 407.2.10 and 407.2.13 and with 407.5.1 through 407.5.7 or shall comply with 407.2. They shall be passenger elevators as classified by ASME/ANSI A17.1.

407.5.1 Call Buttons. Call buttons in elevator lobbies and halls shall be located vertically between 35 inches (890 mm) and 54 inches (1370 mm) above the floor, measured to the centerline of the button. A clear floor or ground space complying with 305 shall be provided. The button that designates the up direction shall be located above the button that designates the down direction. Keypad controls, if provided, shall comply with 407.2.11.

407.5.2 Hall Signals. A visible and audible signal at each hoistway entrance to indicate which car is answering a call or in-car signals complying with 407.2.3 shall be provided. Audible signals shall sound once for the up direction and twice for the down direction, or shall have verbal annunciators that state the word "up" or "down". If new hall signals are installed, they shall comply with 407.2.3.

407.5.3 Door Operation. Power operated horizontally sliding car and hoistway doors opened and closed by automatic means shall comply with 407.2.5. Existing manually operated hoistway swing doors shall comply with 404.2.3 and 404.2.9. A power operated car door that opens and maintains a 32 inches (815 mm) minimum clear width shall be provided. Closing of the car door shall not be initiated until the hoistway door is closed. Car gates are prohibited.

407.5.4 Inside Dimensions of Elevator Cars. The inside dimensions of elevator cars shall comply with 407.2.8.

EXCEPTION: This requirement shall not apply to existing elevator car configurations that provide a clear floor area of 16 square feet (1.5 m^2) minimum, and provide 48 inches (1220 mm) minimum inside clear depth and 36 inches (915 mm) minimum clear width.

407.5.5 Car Controls. Elevator controls shall comply with 407.5.5.1 through 407.5.5.4.

407.5.5.1 Buttons. Control buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension. Control buttons shall be raised, flush or recessed. Where the car operating panel is changed, control buttons shall comply with 407.2.11.1.

407.5.5.2 Designations and Indicators for Control Buttons. Control buttons shall comply with 407.2.11.2.

EXCEPTION: Where space on an existing car operating panel precludes *tactile* markings to the left of the controls, markings shall be placed as near to the control as possible.

407.5.5.3 Height. Floor buttons shall be located 54 inches (1370 mm) maximum above the floor for parallel approach and 48 inches (1220 mm) maximum for front approach. Where the panel is changed, it shall comply with 407.2.11.3.

407.5.5.4 Operating Panels. Where a new car operating panel complying with 407.2.11 is provided, existing car operating panels not conforming to 407.2.11 shall not be required to be removed.

407.5.6 Car Position Indicators. Where a new car position indicator is provided, the indicator shall comply with 407.2.12.

407.5.7 Identification. *Accessible* elevators shall be clearly identified with the International Symbol of Accessibility complying with 703.7 unless all elevators in the *building* are *accessible*.

408 Wheelchair (Platform) Lifts

408.1 General. Wheelchair (platform) lifts shall comply with ASME/ANSI A17.1 and with 302, 305 and 309. Wheelchair (platform) lifts shall not be attendant-operated and shall provide unassisted entry and exit from the lift.

408.2 Doors and Gates. Where a lift does not allow a user to pass through the lift, the lift shall have power-operated doors or gates. Where *automatic doors* or gates are provided, they shall be low energy power-operated and shall comply with ANSI/BHMA A156.9. Power operated doors and gates shall remain open for 20 seconds minimum when activated.

409 Accessible Means of Egress

409.1 General. Each required *accessible means of egress* shall be continuous to a public way and shall consist of one or more of the following components: *accessible routes* complying with 402, exit stairways complying with 409.2, elevators complying with 409.3, horizontal exits or smoke barriers. Wheelchair (platform) lifts shall not serve as part of an *accessible means of egress*.

409.2 Exit Stairways. An exit stairway to be considered part of an *accessible means of egress* shall conform to 504 and shall have a clear width of 48 inches (1220 mm) minimum between handrails and shall either incorporate an *area of refuge* within an enlarged floor-level landing or shall be accessed from either an *area of refuge* complying with 410 or a horizontal exit.

EXCEPTIONS:

1. This requirement shall not apply to exit stairways serving a single guest room.
2. This requirement shall not apply to exit stairways in *buildings* or *facilities* protected throughout by a supervised automatic sprinkler system.
3. The clear width of 48 inches (1220 mm) between handrails is not required for exit stairways accessed from a horizontal exit.
4. This requirement shall not apply to exit stairways serving open parking garages.

409.3 Elevators. An elevator to be considered part of an *accessible means of egress* shall comply with the requirements of Rule 211 of ASME/ANSI A17.1 and standby power shall be provided. The elevator shall be accessed from either an *area of refuge* complying with 410 or a horizontal exit.

EXCEPTIONS:

1. Elevators are not required to be accessed from an *area of refuge* or horizontal exit in open parking garages.
2. Elevators are not required to be accessed from an *area of refuge* or horizontal exit in *buildings* and *facilities* protected throughout by a supervised automatic sprinkler system.

410 Areas of Refuge

410.1 General. Where *areas of refuge* are required, they shall comply with 410.

410.2 Location. Each *area of refuge* shall be accessed from the *space* it serves by an *accessible route* which serves as an *accessible means of egress*. The maximum travel distance to an *area of refuge* shall not exceed the travel distance permitted for the occupancy by the

administrative authority. Every *area of refuge* shall have direct access to an exit stairway complying with 409.2 or an elevator complying with 409.3.

410.3 Size. Each *area of refuge* shall be sized to accommodate one *wheelchair space* complying with 305.3 for each 200 occupants or portion thereof, based on the occupant load of the *area of refuge* and all areas served by the *area of refuge*. Such *wheelchair spaces* shall not overlap the required means of egress width. Access to any required *wheelchair space* shall not be through more than one adjoining *wheelchair space*.

410.4 Construction. Each *area of refuge* shall be separated from the remainder of the *story* by a smoke barrier having a one-hour minimum fire-resistance rating. Smoke barriers shall extend to the floor or roof deck above. Doors in the smoke barrier shall have a 20 minute minimum fire-resistance rating. Doors shall be self-closing or automatic closing by smoke detection. HVAC openings in smoke barriers, where permitted, shall be ducted and provided with a smoke-actuated damper designed to resist the passage of smoke.

410.5 Smoke Resistance. Every *area of refuge* shall be designed to prevent the intrusion of smoke.

EXCEPTIONS: 1. This requirement shall not apply where the *areas of refuge* and all areas served by the *area of refuge* are protected by an automatic sprinkler system.

2. This requirement shall not apply to *areas of refuge* located within an exit stair enclosure.

410.5.1 Elevator Lobby. Where an elevator lobby is used as an *area of refuge*, the elevator hoistway and lobby shall be pressurized to comply with the requirements for smokeproof enclosures, except where elevators are in an *area of refuge* formed by a horizontal exit or smoke barrier.

410.6 Communication System. Every *area of refuge* shall be provided with an *accessible* two-way communication system between the *area of refuge* and a central control point. The communication system shall have both audible and visible signals.

410.7 Instructions. In each *area of refuge* provided with a two-way communication system, instructions on the use of the area under emergency conditions shall be posted adjacent to the communications system. The instructions shall include:

1. Directions to other means of egress.
2. Advice that persons able to use the exit stairs do so as soon as possible unless they are assisting others.
3. Information on planned availability of assistance in the use of stairs or supervised operation of elevators and how to summon such assistance.
4. Directions for use of emergency communications system.

410.8 Identification. Each *area of refuge* shall be identified by a *tactile sign* stating "Area of Refuge" complying with 703.2 and including the International Symbol of Accessibility complying with 703.7. A *sign* shall be located at each door providing access to the *area of refuge*. The *sign* shall be illuminated as required for exit *signs* where exit *sign* illumination is required.

CHAPTER 5: GENERAL SITE AND BUILDING ELEMENTS

501 General

501.1 Scope. General *site* and *building elements* required to be *accessible* by Chapter 2 shall comply with the applicable provisions of this chapter.

502 Parking Spaces

502.1 General. Car and van parking spaces required to be *accessible* shall comply with 502.

502.2 Vehicle Spaces. Car and van parking spaces shall be 96 inches (2440 mm) wide minimum and shall have an adjacent access aisle complying with 502.3.

502.3 Access Aisle. Access aisles serving parking spaces shall comply with 302 and 502.3.1 through 502.3.3. Access aisles shall adjoin an *accessible route*. Two parking spaces shall be permitted to share a common access aisle.

502.3.1 Width. Access aisles serving car parking spaces shall be 60 inches (1525 mm) wide minimum. Access aisles serving van parking spaces shall be 96 inches (2440 mm) wide minimum.

502.3.2 Length. Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

502.4 Floor or Ground Surfaces. Parking spaces and access aisles serving them shall have surface slopes not steeper than 1:48 in all directions. Changes in level are not permitted. Access aisles shall be at the same level as the parking spaces they serve.

502.5 Vertical Clearance. Van parking spaces, access aisles serving them and a vehicular route to van parking spaces shall provide a vertical clearance of 98 inches (2490 mm) minimum.

502.6 Identification. Where *accessible* parking spaces are required to be identified by *signs*, the *signs* shall include the International Symbol of Accessibility complying with 703.7. Such *signs* shall be 60 inches (1525 mm) minimum above the floor or ground surface measured to the bottom of the *sign*.

503 Passenger Loading Zones

503.1 General. Passenger loading zones required to be *accessible* shall comply with 503.

503.2 Vehicle Pull-up Space. Passenger loading zones shall provide a vehicular pull-up space 96 inches (2440 mm) minimum in width, 20 feet (6100 mm) minimum in length and an adjacent access aisle complying with 503.3.

503.3 Access Aisle. Access aisles serving passenger loading zones shall comply with 302 and 503.3.1 through 503.3.3. Access aisles shall adjoin an *accessible route*.

503.3.1 Width. Access aisles serving vehicle pull-up spaces shall be 60 inches (1525 mm) wide minimum.

503.3.2 Length. Access aisles shall be 20 feet (6100 mm) minimum in length and shall extend the full length of the vehicle pull-up spaces they serve.

503.3.3 Marking. Access aisles shall be marked so as to discourage parking in them.

503.4 Floor and Ground Surfaces. Vehicle pull-up spaces and access aisles serving them shall have surface slopes not steeper than 1:48. Changes in level are not permitted. Access aisles shall be at the same level as the vehicle pull-up space they serve.

503.5 Vertical Clearance. Vehicle pull-up spaces, access aisles serving them and a vehicular route to the passenger loading zone shall provide a vertical clearance of 114 inches (2895 mm) minimum.

504 Stairways

504.1 General. Stairs required to be *accessible* shall comply with 504.

504.2 Treads and Risers. All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) minimum in height and 7 inches (180 mm) maximum in height. Treads shall be 11 inches (280 mm) minimum in depth, measured from riser to riser.

504.3 Open risers. Open risers are not permitted.

504.4 Tread Surface. Stair treads shall comply with 302. Treads shall have a slope not steeper than 1:48. Changes in level are not permitted.

504.5 Nosings. The radius of curvature at the leading edge of the tread shall be 1/2 inch (13 mm) maximum. Nosings that project beyond vertical risers shall have the underside of the leading edge curved or beveled. If not vertical, risers shall slope under the tread at an angle of 30 degrees maximum from vertical; however, the permitted projection of the nosing shall be 1-1/2 inches (38 mm) maximum beyond the rear of the tread below.

504.6 Handrails. Stairs shall have handrails complying with 505.

504.7 Outdoor Conditions. Outdoor stairs and outdoor approaches to stairs shall be designed so that water will not accumulate on walking surfaces.

505 Handrails

505.1 General. Handrails required by 405 at *ramps* or 504 at stairs shall comply with 505.

505.2 Where Required. Handrails shall be provided on both sides of stairs and *ramps*.

EXCEPTION: Handrails are not required on both sides of aisle stairs and aisle *ramps* provided with a handrail at either side or within the aisle width.

505.3 Continuity. Handrails shall be continuous within the full length of each stair flight or *ramp* run.

EXCEPTION: Handrails are not required to be continuous in aisles serving seating.

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above stair nosings and *ramp* surfaces. Handrails shall be at a consistent height above stair nosings and *ramp* surfaces.

505.5 Clearance. Clearance between handrail and wall shall be 1-1/2 inches (38 mm) minimum.

505.6 Gripping Surface. Gripping surfaces shall be continuous, without interruption by newel posts, other construction *elements*, or obstructions.

EXCEPTION: Handrail brackets or balusters attached to the bottom surface of the handrail shall not be considered obstructions provided they comply with the following:

1. Not more than 20 percent of the handrail length is obstructed;
2. Horizontal projections beyond the sides of the handrail occur 2-1/2 inches (64 mm) minimum below the bottom of the handrail, and
3. Edges have a 1/8 inch (3.2 mm) minimum radius.

505.7 Cross Section. Handrails shall have a circular cross section with an outside diameter of 1-1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum, or shall provide equivalent graspability in accordance with 505.7.1.

505.7.1 Non-Circular Cross Sections. Non-circular cross sections shall have a perimeter dimension of 4 inches (100 mm) minimum and 6-1/4 inches (160 mm) maximum, and a cross-section dimension of 2-1/4 inches (57 mm) maximum.

505.8 Surfaces. Handrails and any wall or other surfaces adjacent to them shall be free of any sharp or abrasive *elements*. Edges shall have a 1/8 inch (3.2 mm) minimum radius.

505.9 Fittings. Handrails shall not rotate within their fittings.

505.10 Handrail Extensions. Handrails shall extend beyond stair runs and *ramp* runs in accordance with 505.10.1 through 505.10.3.

EXCEPTIONS: 1. Extensions are not required for continuous handrails at the inside turn of switchback or dogleg stairs and *ramps*.

2. Extensions are not required for handrails in aisles serving seating where the handrails are necessarily discontinuous to provide access to seating and to permit crossovers within the aisle.
3. In *alterations*, full extension of handrails shall not be required where such extensions would be hazardous or impossible due to plan configuration.

505.10.1 Top and Bottom Extension at Ramps. *Ramp* handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. Such extension shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent *ramp* run.

505.10.2 Top Extension at Stairs. At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first riser nosing. Such extension shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight.

505.10.3 Bottom Extension at Stairs. At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the last riser nosing and an additional 12 inches (305 mm) minimum horizontally at a height equal to that of the sloping portion of the handrail as measured above the stair nosings. Such extension shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent stair flight.

CHAPTER 6: PLUMBING ELEMENTS AND FACILITIES

601 General

601.1 Scope. Plumbing *elements* and *facilities* required to be *accessible* by Chapter 2 shall comply with the applicable provisions of this chapter.

602 Drinking Fountains and Water Coolers

602.1 General. Fixed drinking fountains and water coolers required to be *accessible* shall comply with 307 and 602.

602.2 Clear Floor Space. Units shall have a clear floor or ground space complying with 305.

602.2.1 Forward Approach. Where a forward approach is provided, the clear floor space shall be centered on the unit and shall include knee and toe clearance complying with 306.

602.2.2 Parallel Approach. Where a parallel approach is provided, the clear floor space shall be centered on the unit.

602.3 Controls and Operating Mechanisms. *Controls and operating mechanisms* shall comply with 309.

602.4 Spout Height. Spout outlets shall be 36 inches (915 mm) maximum above the floor or ground.

602.5 Spout Location. Units with a parallel approach shall have the spout located 3-1/2 inches (90 mm) maximum from the front edge of the unit, including bumpers. Units with a forward approach shall have the spout located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) maximum from the front edge of the unit, including bumpers.

602.6 Water Flow. The spout shall provide a flow of water at least 4 inches (100 mm) high so as to allow the insertion of a cup or glass under the flow of water. Measured horizontally relative to the front face of the unit, the angle of the water stream from spouts located within 3 inches (75 mm) of the front of the unit shall be 30 degrees maximum and from spouts located between 3 inches (75 mm) and 5 inches (125 mm) from the front shall be 15 degrees maximum.

603 Toilet and Bathing Rooms

603.1 General. Toilet and bathing rooms required to be *accessible* shall comply with 603.

603.2 Clear Floor Space.

603.2.1 Wheelchair Turning Space. Wheelchair turning space complying with 304 shall be provided within the room.

603.2.2 Overlap. Required clear floor spaces, clearance around water closets, and wheelchair turning space shall be permitted to overlap.

603.2.3 Doors. Doors shall not swing into the clear floor space or clearance required for any fixture.

EXCEPTIONS:

1. Doors to a toilet and bathing room for a single occupant, accessed only through a private office and not for *common* or *public use* shall be permitted to swing into the clear floor space provided the swing of the door can be reversed to meet 603.2.3.

2. This requirement shall not apply where the toilet and bathing room is for individual use and a clear floor space complying with 305 is provided within the room, beyond the arc of the door swing.

603.3 Mirrors. Mirrors shall be mounted with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor.

603.4 Coat Hooks and Shelves. *Accessible* coat hooks provided within toilet rooms shall be located within one of the reach ranges specified in 308. Where provided, a fold-down shelf shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the floor.

604 Water Closets and Toilet Compartments

604.1 General. Water closets and toilet compartments required to be *accessible* shall comply with 604.

604.2 Location. The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be centered in the ambulatory *accessible* toilet compartment specified in 604.8.2.

604.3 Clear Floor Space.

604.3.1 Clearance. Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall. No other fixtures or obstructions shall be located within the required water closet clearance.

604.3.2 Overlap. The required clearance around the water closet shall be permitted to overlap the fixture, associated grab bars, tissue dispensers, *accessible routes*, clear floor space required at other fixtures and the wheelchair turning space, except as modified herein.

604.4 Height. The height of water closets shall be 17 inches (430 mm) minimum to 19 inches (485 mm) maximum measured to the top of the toilet seat. Seats shall not be sprung to return to a lifted position.

EXCEPTION: The height requirement shall not apply to a water closet in a toilet room for a single occupant, accessed only through a private office and not for *common* or *public use*.

604.5 Grab Bars. Grab bars for water closets shall comply with 609. Grab bars shall be provided on the rear wall and on the side wall closest to the water closet.

604.5.1 Side Wall. Side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

604.5.2 Rear Wall. The rear wall grab bar shall be 24 inches (610 mm) long minimum, centered on the water closet. Where space permits, the bar shall be 36 inches (915 mm) long minimum with the additional length provided on the transfer side of the water closet.

EXCEPTION: Grab bars are not required to be installed in a toilet room for a single occupant, accessed only through a private office and not for *common* or *public use* provided that reinforcement has been installed in walls and located so as to permit the installation of such grab bars.

604.6 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

604.7 Dispensers. Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet. The outlet of the dispenser shall be 15 inches (380 mm) minimum and 48 inches (1220 mm) maximum above the floor. There shall be a clearance of 1 1/2 inches (38 mm) minimum below and 12 inches (305 mm) minimum above the grab bar. Dispensers shall not be of a type that control delivery or that do not allow continuous paper flow.

604.8 Toilet Compartments. *Accessible* toilet compartments shall meet the requirements of 604.8.1 through 604.8.5. Compartments containing more than one plumbing fixture shall comply with 603.

604.8.1 Wheelchair Accessible Compartments.

604.8.1.1 Size. Wheelchair accessible compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall, and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall.

604.8.1.2 Doors. Compartment doors shall not swing into the minimum required compartment area.

604.8.1.3 Approach. Compartments shall be arranged for left-hand or right-hand approach.

604.8.1.4 Toe Clearance. In wheelchair accessible compartments, the front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the floor and 6 inches (150 mm) deep minimum beyond the compartment-side face of the partition, exclusive of partition support members. Toe clearance at the front partition is not required in a compartment greater than 62 inches (1575 mm) deep with a wall-hung water closet or 65 inches (1650 mm) deep with a floor-mounted water closet. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1675 mm) wide.

604.8.2 Ambulatory Accessible Compartments. Ambulatory accessible compartments shall be 60 inches (1525 mm) deep minimum and 36 inches (915 mm) wide. Compartment doors shall not swing into the minimum required compartment area.

604.8.3 Doors. Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the stall and any obstruction shall be a minimum of 42 inches (1065 mm). The door shall be hinged 4 inches (100 mm) maximum from the side wall or partition farthest from the water closet. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch.

604.8.4 Grab Bars. Grab bars in toilet compartments shall comply with 609.

604.8.4.1 Wheelchair Accessible Compartments. A side-wall grab bar complying with 604.5.1 located on the wall closest to the water closet and a rear-wall grab bar complying with 604.5.2 shall be provided.

604.8.4.2 Ambulatory Accessible Compartments. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

604.8.5 Coat Hooks and Shelves. *Accessible* coat hooks provided within toilet compartments shall be located within one of the reach ranges specified in 308. When provided, a fold-down shelf shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the floor.

605 Urinals

605.1 General. Urinals required to be *accessible* shall comply with 605.

605.2 Height. Urinals shall be stall-type or wall-hung type with the rim 17 inches (430 mm) maximum above the floor or ground.

605.3 Clear Floor Space. A clear floor or ground space complying with 305 positioned for forward approach shall be provided. This clear space shall adjoin or overlap an *accessible route*.

605.4 Flush Controls. Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.4 and shall be 44 inches (1120 mm) maximum above the floor or ground.

606 Lavatories and Sinks

606.1 General. Sinks, lavatory fixtures, vanities and built-in lavatories required to be *accessible* shall comply with 606.

606.2 Clear Floor Space. A clear floor space complying with 305 positioned for forward approach shall be provided. Knee and toe clearance complying with 306 shall be provided.

EXCEPTIONS: 1. A parallel approach shall be permitted to a kitchen sink in a space where a cook top or conventional range is not provided.

2. The dip of the overflow shall not be considered in determining knee and toe clearances.

3. The requirement for knee and toe clearance shall not apply to a lavatory in a toilet and bathing *facility* for a single occupant, accessed only through a private office and not for *common* or *public use*.

606.3 Height. Lavatories and sinks shall be mounted with the front of the higher of the rim or counter surface 34 inches (865 mm) maximum above the finish floor.

EXCEPTION: This requirement shall not apply to a lavatory in a toilet and bathing *facility* for a single occupant, accessed only through a private office and not for *common* or *public use*.

606.4 Faucets. Faucets shall comply with 309. Hand-operated, self-closing faucets shall remain open for at least 10 seconds.

606.5 Bowl Depth. The bowl shall be 6-1/2 inches (165 mm) deep maximum. Multiple compartment sinks shall have at least one compartment complying with this requirement.

606.6 Exposed Pipes and Surfaces. Water supply and drain pipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories and sinks.

607 Bathtubs

607.1 General. Bathtubs required to be *accessible* shall comply with 607.

607.2 Clear Floor Space. Clearance in front of bathtubs shall extend the length of the tub and shall be 30 inches (760 mm) wide minimum. A lavatory complying with 606 shall be permitted at the foot end of the clear floor space. Where a permanent seat is provided at the head end of the tub, the clear floor space shall extend a minimum of 12 inches (305 mm) beyond the seat.

607.3 Seat. A permanent seat at the head end of the tub or a removable in-tub seat shall be provided. Seats shall comply with 610.

607.4 Grab Bars. Grab bars for bathtubs shall comply with 609 and shall be provided in accordance with 607.4.1 and 607.4.2.

EXCEPTION: Grab bars are not required to be installed in a bathing *facility* for a single occupant accessed only through a private office and not for *common* or *public use*, provided that reinforcement has been installed in walls and located so as to permit the installation of such grab bars.

607.4.1 Bathtubs With Permanent Seats. For bathtubs with permanent seats, grab bars shall be provided in accordance with 607.4.1.1 and 607.4.1.2.

607.4.1.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.3 and the other located 9 inches (230 mm) above the rim of the tub. Each grab bar shall be installed 15 inches (380 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the foot end wall.

607.4.1.2 Foot End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the foot end wall at the front edge of the tub.

607.4.2 Bathtubs Without Permanent Seats. For bathtubs without permanent seats, grab bars shall be provided in accordance with 607.4.2.1 through 607.4.2.3.

607.4.2.1 Back Wall. Two grab bars shall be installed on the back wall, one located in accordance with 609.3 and other located 9 inches (230 mm) above the rim of the tub. Each grab bar shall be 24 inches (610 mm) long minimum and shall be installed 24 inches (610 mm) maximum from the head end wall and 12 inches (305 mm) maximum from the foot end wall.

607.4.2.2 Foot End Wall. A grab bar 24 inches (610 mm) long minimum shall be installed on the foot end wall at the front edge of the tub.

607.4.2.3 Head End Wall. A grab bar 12 inches (305 mm) long minimum shall be installed on the head end wall at the front edge of the tub.

607.5 Controls. Controls, other than drain stoppers, shall be located on an end wall above the tub rim and below the grab bars, and between the front edge of the tub and the mid-point of the width of the tub. Controls shall comply with 309.4.

607.6 Shower Unit. A shower spray unit with a hose at least 59 inches (1500 mm) long that can be used both as a fixed shower head and as a hand-held shower shall be provided. If an adjustable-height shower head mounted on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars.

607.7 Bathtub Enclosures. Enclosures for bathtubs shall not obstruct controls or transfer from wheelchairs onto bathtub seats or into tubs. Enclosures on bathtubs

shall not have tracks mounted on the rim of the open face of the tub.

608 Shower Compartments

608.1 General. Shower compartments required to be *accessible* shall comply with 608.

608.2 Size and Clearances for Shower Compartments.

608.2.1 Transfer-type Shower Compartments. Transfer-type shower compartments shall be 36 inches (915 mm) by 36 inches (915 mm) inside finished dimension measured at the centerpoint of opposing sides and shall have a minimum 36 inch (915 mm) wide entry on the face of the shower compartment. Clear floor space of 36 inches (915 mm) wide minimum by 48 inches (1220 mm) long minimum measured from the control wall shall be provided.

608.2.2 Standard Roll-in-type Shower Compartment. Standard roll-in type shower compartments shall be 30 inches (760 mm) minimum by 60 inches (1525 mm) minimum clear inside dimension measured at the centerpoint of opposing sides and shall have a minimum 60 inches (1525 mm) wide entry on the face of the shower compartment. A 30 inch (760 mm) wide minimum by 60 inch (1525 mm) long minimum clear floor space shall be provided adjacent to the open face of the shower compartment. A lavatory complying with 606 shall be permitted at the end of the clear space, opposite the shower compartment end where the seat is mounted and opposite the shower compartment side where shower controls are located.

608.2.3 Alternate Roll-in-type Shower Compartment. Alternate roll-in shower compartments shall be 36 inches (915 mm) in width and 60 inches (1220 mm) minimum in depth. A 36 inch (915 mm) wide minimum entry shall be provided to one side of the stall. The shower unit and controls shall be mounted on the end wall furthest from the compartment entry.

608.3 Grab Bars. Grab bars shall comply with 609 and shall be provided in accordance with 608.3.1 and 608.3.2. Where multiple grab bars are used, they shall be installed at the same height.

EXCEPTION: Grab bars are not required to be installed in a shower *facility* for a single occupant, accessed only through a private office and not for *common* or *public use* provided that reinforcement has been installed in walls and located so as to permit the installation of such grab bars.

608.3.1 Transfer Type Showers. Grab bars shall be extended across the control wall and back wall to a point 18 inches (455 mm) from the control wall.

608.3.2 Roll-in Type Showers. Grab bars shall be provided on the three walls of the shower. Grab bars shall be mounted 6 inches (150 mm) maximum from the adjacent wall.

EXCEPTIONS: 1. Where a seat is provided in a roll-in type shower, grab bars shall not extend over the seat at the control wall and shall not be located behind the seat.

2. In alternate roll-in type showers, grab bars shall not be required on the side wall opposite the control wall and shall not be located behind the seat.

608.4 Seats. An attachable or integral seat shall be provided in transfer-type shower compartments. A folding seat shall be provided in roll-in showers used in *accessible transient lodging* guest rooms. Seats shall comply with 610.

608.5 Controls. Shower or tub/shower *facilities* shall deliver water that is thermal shock protected to 120°F maximum. Controls shall comply with 309.4. Controls in roll-in showers shall be located above the grab bar but no higher than 48 inches (1220 mm) above the shower floor. In transfer-type shower compartments, controls, faucets and the shower spray unit shall be mounted on the side wall opposite the seat 38 inches (965 mm) minimum to 48 inches (1220 mm) maximum above the shower floor.

608.6 Shower Spray Unit. A shower spray unit with a hose at least 59 inches (1500 mm) long that can be used both as a fixed shower head and as a hand-held shower shall be provided. In transfer type showers, the controls and shower unit shall be located on the control wall within 15 inches (380 mm) left or right of the centerline of the seat. In roll-in type showers, shower spray units mounted on the back wall shall be mounted 27 inches

(685 mm) maximum from the side wall. If an adjustable-height shower head mounted on a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars.

608.7 Curbs. Thresholds in shower compartments shall be 1/2 inch (13 mm) high maximum in accordance with 303.

608.8 Shower Enclosures. Enclosures for shower compartments shall not obstruct controls or obstruct transfer from wheelchairs onto shower seats.

609 Grab Bars

609.1 General. Grab bars in *accessible* toilet or bathing *facilities* shall comply with 609.

609.2 Size and Spacing of Grab Bars. The diameter or width of grab bars shall be 1-1/4 inches (32 mm) minimum to 1-1/2 inches (38 mm) maximum. If not round, the shape shall provide equivalent graspability with a maximum cross-section dimension of 2 inches (51 mm) and perimeter dimension of 4 inches (100 mm) minimum and 4-11/16 inches (120 mm) maximum and with edges having a 1/8-inch (3.2 mm) minimum radius. The space between the wall and the grab bar shall be 1-1/2 inches (38 mm). The space between the grab bar and projecting objects above shall be 15 inches (380 mm) minimum.

EXCEPTION: The space between the grab bars and shower controls, shower fittings and other grab bars above shall be 1-1/2 inches (38 mm) minimum.

609.3 Position of Grab Bars. Grab bars shall be mounted in a horizontal position, 33 inches (840 mm) minimum to 36 inches (915 mm) maximum above the floor.

609.4 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive *elements*. Edges shall have a radius of 1/8 inch (3.2 mm) minimum.

609.5 Fittings. Grab bars shall not rotate within their fittings.

609.6 Method of Mounting. Grab bars shall be mounted in any manner that provides a gripping surface at the locations specified in this standard and that does not obstruct the required clear floor space.

609.7 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 lb (1112 N) is applied at any point on the grab bar, fastener mounting device or supporting structure.

610 Seats

610.1 General. Seats in *accessible* bathtubs and shower compartments shall comply with 610.

610.2 Bathtub Seats. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum to 16 inches (405 mm) maximum. The seat shall be capable of secure placement. The depth of a permanent seat at the head end of the bathtub shall be 15 inches (380 mm) minimum. The top of bathtub seats shall be 17 inches (430 mm) minimum to 19 inches (485 mm) maximum above the bathroom floor.

610.3 Shower Compartment Seats. Where a seat is provided in a roll-in shower compartment, it shall be a folding type and shall be mounted on the wall adjacent to the controls. Seats shall be L-shaped or rectangular. The top of the seat shall be 17 inches (430 mm) minimum to 19 inches (485 mm) maximum above the bathroom floor. In a transfer-type shower, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. In a roll-in-type shower, the seat shall extend from the control wall to a point within 3 inches (75 mm) of the minimum required seat wall width.

610.3.1 Rectangular Seats. The rear edge of the seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum to 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1-1/2 inches (38 mm) maximum from the back wall of a transfer-type shower and 1-1/2 inches (38 mm) maximum from the control wall of a roll-in-type shower.

610.3.2 L-Shaped Seats. The rear edge of the seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum to 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 1 1/2 inches (38 mm) maximum from the wall and the

front edge shall be 14 inches (355 mm) minimum to 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22 inches (560 mm) minimum to 23 inches maximum (585 mm) from the main seat wall.

610.4 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 lb (1112 N) is applied at any point on the seat, fastener mounting device or supporting structure.

611 Laundry Equipment

611.1 General. Washing machines and clothes dryers required to be *accessible* shall comply with 611.

611.2 Clear Floor Space. A clear floor or ground space complying with 305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the appliance.

611.3 Operable Parts. *Controls and operating mechanisms* including doors, lint screens, detergent and bleach compartments shall comply with 309.

611.4 Height. Top loading machines shall have the door to the laundry compartment located 34 inches (865 mm) maximum above the floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and 34 inches (865 mm) maximum above the floor.

CHAPTER 7: COMMUNICATION ELEMENTS AND FEATURES

701 General

701.1 Scope. Communications features and *elements* required to be *accessible* by Chapter 2 shall comply with the applicable provisions of this chapter.

702 Fire Alarm Systems

702.1 General. Fire alarm systems required to be *accessible* shall have audible alarms complying with 702.2 and visual alarms complying with 702.3.

EXCEPTION: Fire alarm systems in medical care *facilities* shall be permitted to be modified to suit standard health care alarm practice.

702.2 Audible Alarms. Audible alarms shall produce a sound that exceeds the prevailing equivalent sound level in the room or *space* by at least 15 dBA or exceeds any maximum sound level with a duration of 60 seconds by 5 dBA, whichever is louder. Sound levels for alarm signals shall not exceed 120 dBA.

702.3 Visual Alarms. Visual alarms shall comply with 702.3.1 through 702.3.6

702.3.1 Light Pulse Characteristics.

702.3.1.1 Type. The lamp shall be a xenon strobe type or equivalent.

702.3.1.2 Color. The color shall be clear or nominal white.

702.3.1.3 Flash Rate. The flash rate for an individual appliance shall be 1 Hz minimum and 2 Hz maximum over its rated voltage range.

702.3.1.4 Pulse Duration. The maximum pulse duration shall be two-tenths of one second with a maximum duty cycle of 40 percent. The pulse duration is defined as the time interval between initial and final points of 10 percent of maximum signal.

702.3.2 Dispersion. Light dispersion of wall mounted appliances shall comply with Table 702.3.2.1. Light dispersion of ceiling mounted appliances shall comply with Table 702.3.2.2.

Table 702.3.2.1 Light Dispersion for Wall-Mounted Visual Alarm Appliances

Vertical Dispersion		Horizontal Dispersion	
Degrees from Horizontal	Percent of Rated	Degrees fromVertical	Percent of Rated
0	100	0	100
5-30	90	5-25	90
35	65	30-45	75
40	46	50	55
45	34	55	45
50	27	60	40
55	22	65	35
60	18	70	35
65	16	75	30
70	15	80	30
75	13	85	25
80	12	90	25
85	12		
90	12		

Table 702.3.2.2 Light Dispersion for Ceiling-Mounted Visual Alarm Appliances

Degrees from Vertical	Percent of Rated
0	100
5-25	90
30-45	75
50	55
55	45
60	40
65	35
70	35
75	30
80	30
85	25
90	25

702.3.3 Mounting Height. Appliances shall be located in accordance with 702.3.3.1 or 702.3.3.2.

EXCEPTION: Appliances in guest rooms shall comply with 702.3.6.

702.3.3.1 Wall mounted appliances. Appliances shall be located 80 inches (2030 mm) minimum and 96 inches (2440 mm) maximum above the finished floor measured to the bottom of the appliance.

EXCEPTION: Wall mounted appliances which are part of a smoke detector shall be located 4 inches (100 mm) minimum and 12 inches (305 mm) maximum below the ceiling measured to the top of the smoke detector.

702.3.3.2 Ceiling-Mounted Appliances. Ceiling-mounted appliances shall be located on the ceiling. Where ceiling height exceeds 30 feet (9140 mm), appliances shall be suspended from the ceiling to a height of 30 feet (9140 mm) maximum above the finished floor.

702.3.4 Spacing Allocation and Minimum Intensity. Spacing and minimum effective intensity for appliances shall comply with 702.3.4.1 through 702.3.4.3.

EXCEPTIONS: 1. Appliances in corridors not more than 20 feet (6100 mm) in width shall comply with 702.3.5.

2. Appliances in guest rooms shall comply with 702.3.6.

702.3.4.1 General. The signal provided by the appliance or appliances shall be visible either by direct view or by reflection from all parts of the covered area. Multiple appliances within an area are permitted only where size, shape, building construction or furnishings prohibit total coverage by a single appliance. Where multiple appliances are provided in a single area to provide total area coverage, the appliances shall comply with one of the following: a maximum of two appliances located on opposite walls; the appliances shall have synchronized flashes, or; in rooms 80 feet (24 m) by 80 feet (24 m) or greater in size, more than two appliances located such that all appliances in any 135-degree field of view are spaced a minimum of 55 feet (17 m) from each other.

702.3.4.2 Wall mounted appliances. Spacing and minimum effective intensity for wall mounted appliances shall be in accordance with Table 702.3.4.2 provided the appliance is located at the midpoint of the longest side of the area served. Where the appliance is not located at the midpoint, the minimum effective intensity shall be based upon a maximum area of coverage equal to the distance to the opposite side of the area served or double the distance to the farthest adjacent side of the area served, whichever is greater.

Table 702.3.4.2 Spacing Allocation for Wall-Mounted Visual Alarm Appliances

Maximum Area of Coverage in Feet	Minimum Required Light Output (Effective Intensity) (candela)		
	One Light Per Area	Two Lights Per Area	Four Lights Per Area
20 X 20 (6100 X 6100 mm)	15	Not Permitted	Not Permitted
30 X 30 (9140 X 9140 mm)	30	15	Not Permitted
40 X 40 (12 X 12 m)	60	30	Not Permitted
50 X 50 (15 X 15 m)	95	60	Not Permitted
60 X 60 (18 X 18 m)	135	95	Not Permitted
70 X 70 (21 X 21 m)	185	95	Not Permitted
80 X 80 (24 X 24 m)	240	135	60
90 X 90 (27 X 27 m)	305	185	95
100 X 100 (30 X 30 m)	375	240	95
110 X 110 (34 X 34 m)	455	240	135
120 X 120 (37 X 37 m)	540	305	135
130 X 130 (40 X 40 m)	635	375	185

702.3.4.3 Ceiling mounted appliances. Spacing and minimum effective intensity for ceiling mounted appliances shall be in accordance with Table 702.3.4.3 provided the appliance is located at the centerpoint of the area served. Where the appliance is not located at the centerpoint, the minimum effective intensity shall be based upon a maximum area of coverage equal to two times the distance from the appliance to the farthest side of the area served.

Table 702.3.4.3 Spacing Allocation for Ceiling-Mounted Visual Alarm Appliances

Maximum Area of Coverage in Feet	Minimum Required Light Output (Effective Intensity) (candela)	
	Maximum Ceiling Height in Feet	One Light
20 X 20 (6100 X 6100 mm)	10 (3050 mm)	15
30 X 30 (9140 X 9140 mm)	10 (3050 mm)	30
40 X 40 (12 X 12 m)	10 (3050 mm)	60
50 X 50 (15 X 15 m)	10 (3050 mm)	95

Maximum Area of Coverage in Feet	Minimum Required Light Output (Effective Intensity) (candela)	
	Maximum Ceiling Height in Feet	One Light
20 X 20 (6100 X 6100 mm)	20 (6100 mm)	30
30 X 30 (9140 X 9140 mm)	20 (6100 mm)	45
40 X 40 (12 X 12 m)	20 (6100 mm)	80
50 X 50 (15 X 15 m)	20 (6100 mm)	115
20 X 20 (6100 X 6100 mm)	30 (9140 mm)	55
30 X 30 (9140 X 9140 mm)	30 (9140 mm)	75
40 X 40 (12 X 12 m)	30 (9140 mm)	115
50 X 50 (15 X 15 m)	30 (9140 mm)	150

702.3.5 Corridor Spacing Allocation and Minimum Intensity. Corridors that are 20 feet (6100 mm) maximum in width shall comply with 702.3.5. Corridors exceeding 20 feet (6100 mm) in width shall comply with 702.3.4.

702.3.5.1 Appliance Spacing. Appliances shall be located 15 feet (4570 mm) maximum from each end of the corridor and shall be located 50 feet (15 m) minimum and 100 feet (30 m) maximum apart along the corridor. Interruptions to the concentrated viewing path by doors, elevation changes or other obstructions shall constitute the end of a corridor for purposes of this section.

702.3.5.2 Minimum Effective Intensity. Appliances shall have a minimum effective intensity of 15 candela.

702.3.6 Guest Rooms. Guest rooms required to have visual alarms shall comply with 702.3.6.1 through 702.3.6.3.

702.3.6.1 Activation. Where single or multiple-station smoke detectors are provided in the sleeping room or suite, a visual alarm that is activated upon activation of the smoke detectors shall be provided within the room or suite. Where a building fire alarm system is provided, a visual alarm that is activated upon activation of the system shall be provided within the room or suite. The signaling line or channel between the activating device of the appliance and the building fire alarm system shall be monitored for integrity by the building fire alarm system. Where the same appliance is used for visual notification of smoke detector and fire alarm system activation, activation of the room or suite smoke detectors shall not activate the building fire alarm system.

702.3.6.2 Location. In sleeping rooms or suites having a linear dimension exceeding 16 feet (4880 mm), the appliance shall be located 16 feet (4880 mm) maximum from the head end of the bed location, measured horizontally. Where a suite contains more than one sleeping room, an appliance shall be provided in each sleeping room.

702.3.6.3 Minimum Effective Intensity and Mounting Height. Wall mounted appliances located 24 inches (610 mm) minimum below the ceiling shall have a minimum effective intensity of 110 candela. Ceiling mounted appliances and wall mounted appliances located less than 24 inches (610 mm) below the ceiling shall have a minimum effective intensity of 177 candela.

703 Signs

703.1 General. *Signs* required to be *accessible* shall comply with 703.

703.2 Characters that are Both Tactile and Visual. *Characters* required to be *tactile* shall comply with 703.2.1 through 703.2.7. *Tactile characters* shall be duplicated in Braille complying with 703.5.

EXCEPTION: *Tactile characters* complying with 703.3, where separate visual *characters* complying with 703.4 provide the same information.

703.2.1 Finish and Contrast. *Characters* and their background shall have a non-glare finish. *Characters* shall contrast with their background with either light *characters* on a dark background or dark *characters* on a light background.

703.2.2 Tactile Characters. *Tactile characters* shall be raised 1/32 inch (0.8 mm) minimum above their background. Raised borders and decorative *elements* that are not required shall be separated 3/8 inch (9.5 mm) minimum from *tactile characters*.

703.2.3 Character Forms. Fonts shall have *characters* complying with 703.2.3.1 through 703.2.3.5.

703.2.3.1 Case. *Characters* shall be uppercase.

703.2.3.2 Style. *Characters* shall be sans serif. *Characters* shall not be italic, oblique, script, highly decorative or of other unusual forms.

703.2.3.3 Width. *Character* width shall be 55 per cent minimum and 110 per cent maximum the height of the *character* with the width based upon the uppercase letter "O" and the height based upon the uppercase letter "I".

703.2.3.4 Height. *Character* height measured vertically from the baseline of the *character* shall be 5/8 inch (16 mm) minimum and 2 inches (51 mm) maximum based upon the uppercase letter "I".

703.2.3.5 Stroke Thickness. For *characters* with rectangular cross sections, the stroke thickness of the uppercase letter "I" shall be 10 per cent minimum and 15 per cent maximum of the height of the *character*. For *characters* with other cross sections, the stroke thickness of the uppercase letter "I" shall be 10 per cent minimum and 30 per cent maximum of the height of the *character* measured at the base of the cross section. Stroke thickness at the top of the cross section shall be 15 per cent maximum of the height of the *character*.

703.2.4 Character Spacing. *Character* spacing shall be measured between the two closest points of adjacent *characters* within a message, excluding word spaces. Where *characters* have rectangular cross sections, spacing between individual *characters* shall be 1/8 inch (3 mm) minimum to 3/8 inch (10 mm) maximum. Where *characters* have other cross sections, spacing between individual *characters* shall be 1/16 inch (2 mm) minimum to 3/8 inch (10 mm) maximum at the base of the cross sections and 1/8 inch (3 mm) to 3/8 inch (10 mm) maximum at the top of the cross sections.

703.2.5 Line Spacing. Spacing between the baselines of separate lines of *characters* in a sentence or paragraph shall be 135 per cent minimum and 170 per cent maximum of the *character* height.

703.2.6 Mounting Height. *Characters* shall be located 48 inches (1220 mm) minimum and 60 inches (1525 mm) maximum above the adjacent floor or ground surface measured from the baseline of the *characters*.

EXCEPTION: This requirement shall not apply to elevator car controls.

703.2.7 Mounting Location. Where a *sign* containing *tactile characters* is provided at a door, the *sign* shall be located alongside the door at the latch side. Where a *tactile sign* is provided at double doors, the *sign* shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or to the right side of double doors, *signs* shall be located on the nearest adjacent wall. *Signs* containing *tactile characters* shall be located so that a clear floor space of 18 inches (455 mm) by 18 inches (455 mm) minimum, centered on the *sign*, is provided beyond the arc of

any door swing between the closed position and 45 degree open position.

EXCEPTION: *Signs* shall be permitted on the push side of doors with closers and without hold-open devices.

703.3 Tactile Characters. Where *tactile characters* are required and separate *tactile* and visual *characters* with the same information are provided, *tactile characters* shall comply with 703.3.1 through 703.3.6 and visual *characters* shall comply with 703.4. *Tactile characters* shall be duplicated in Braille complying with 703.5.

703.3.1 Tactile Characters. *Tactile characters* shall be raised 1/32 inch (0.8 mm) minimum above their background. Raised borders and decorative *elements* that are not required shall be separated 3/8 inch (9.5 mm) minimum from *tactile characters*.

703.3.2 Character Forms. Fonts shall have *characters* complying with 703.3.2.1 through 703.3.2.5.

703.3.2.1 Case. *Characters* shall be uppercase.

703.3.2.2 Style. *Characters* shall be sans serif. *Characters* shall not be italic, oblique, script, highly decorative or of other unusual forms.

703.3.2.3 Width. *Character* width shall be 55 per cent minimum and 110 per cent maximum the height of the *character* with the width based upon the uppercase letter "O" and the height based upon the uppercase letter "I".

703.3.2.4 Height. *Character* height measured vertically from the baseline of the *character* shall be 1/2 inch (13 mm) minimum and 3/4 inch (19 mm) maximum based upon the height of the uppercase letter "I".

703.3.2.5 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 15 per cent maximum of the height of the *character*.

703.3.3 Character Spacing. *Character* spacing shall be measured between the two closest points of adjacent *character* within a message, excluding word spaces. Spacing between individual *characters* shall be 1/8 inch (3 mm) minimum to 1/4 inch (6 mm) maximum.

703.3.4 Line Spacing. Spacing between the baselines of separate lines of *characters* in a sentence or paragraph shall be 135 percent minimum and 170 percent maximum of the *character* height.

703.3.5 Mounting Height. *Characters* shall be located 48 inches (1220 mm) minimum and 60 inches (1525 mm) maximum above the adjacent floor or ground surface, measured from the baseline of the *characters*.

EXCEPTION: This requirement shall not apply to elevator car controls.

703.3.6 Mounting Location. Where a *tactile sign* is provided at a door, the *sign* shall be located alongside the door at the latch side. Where a *tactile sign* is provided at double doors, the *sign* shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or to the right side of double doors, *signs* shall be located on the nearest adjacent wall. *Signs* containing *tactile characters* shall be located so that a clear floor space of 18 inches (455 mm) by 18 inches (455 mm) minimum, centered on the *sign*, is provided beyond the arc of any door swing between the closed position and 45 degree open position.

EXCEPTION: *Signs* shall be permitted on the push side of doors with closers and without hold-open devices.

703.4 Visual Characters. Visual *characters* required to be *accessible* shall comply with 703.4.1 through 703.4.5.

703.4.1 Finish and Contrast. *Characters* and their background shall have a non-glare finish. *Characters* shall contrast with their background with either light *characters* on a dark background or dark *characters* on a light background.

703.4.2 Character forms. Fonts shall have *characters* complying with 703.4.2.1 through 703.4.2.5.

703.4.2.1 Case. *Characters* shall be uppercase or lowercase or a combination thereof.

703.4.2.2 Style. *Characters* shall be conventional in form. *Characters* shall not be italic, oblique, script, highly decorative or of other unusual forms.

703.4.2.3 Width. *Character* width shall be 55 per cent minimum and 110 per cent maximum the height of the *character* with the width based upon the uppercase letter "O" and the height based upon the uppercase letter "I".

703.4.2.4 Height. Minimum *character* height measured from the baseline of the *character* shall comply with Table 703.4.2.4 based upon the height of the *characters* above the finished floor of the viewing location and the minimum viewing distance. *Character* height shall be based upon the uppercase letter "I". Minimum viewing distance is the horizontal distance where an obstruction prevents further approach towards the *sign*.

Table 703.4.2.4 Visual Character Dimensions

Height Above Floor to Baseline of Character	Minimum Viewing Distance	Minimum Character Height	Notes
< 40 inches (100 mm)	—	—	Not permitted except in elevators
40 inches (100mm) to ≤ 70 inches (1780 mm)	≤ 6 feet (1830 mm)	5/8 inch (1 mm)	
	> 6 feet (1830 mm)	5/8 inch (1 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 6 feet (1830 mm)	
> 70 inches (1780 mm) to ≤ 120 inches (3050 mm)	≤ 15 feet (4570 mm)	2 inches (51 mm)	
	> 15 feet (4570 mm)	2 inches (51 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 15 feet (4570 mm)	
> 120 inches (3050 mm)	≤ 21 feet (6400 mm)	3 inches (75 mm)	
	> 21 feet (6400 mm)	3 inches (75 mm), plus 1/8 inch (3.2 mm) per foot (305 mm) of viewing distance above 21 feet (6400 mm)	

703.4.2.5 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 per cent minimum and 30 per cent maximum of the height of the *character*.

703.4.3 Character Spacing. *Character* spacing shall be measured between the two closest points of adjacent *characters*, excluding word spaces. Spacing between individual *characters* shall be 10 per cent minimum and 35 per cent maximum of *character* height.

703.4.4 Line Spacing. Spacing between the baselines of separate lines of *characters* shall be 135 per cent minimum and 170 per cent maximum of the *character* height.

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703.4.5 Mounting Height. Visual *characters* shall be located 40 inches (1015 mm) minimum above the floor of the viewing position. Mounting heights shall comply with Table 703.4.2.4 based on the size of the *characters* on the *sign*.

703.5 Braille. *Tactile characters* shall be accompanied by Grade II Braille complying with Table 703.5 and 703.5.1 through 703.5.3. Braille dots shall have a domed or rounded shape.

Table 703.5 Braille Dimensions

Measurement Range for:	Minimum in Inches	Maximum in Inches
Dot base diameter	0.059 (1.5 mm)	0.060 (1.5 mm)
Distance between any two dots in the same cell, measured center to center	0.090 (2.3 mm)	0.100 (2.5 mm)
Distance between corresponding dots in adjacent cells, measured center to center	0.241 (6.1 mm)	0.300 (7.6 mm)
Dot height	0.025 (0.6 mm)	0.031 (0.8 mm)
Distance between corresponding dots from one cell directly below, measured center to center	0.395 (10 mm)	0.400 (10.2 mm)

703.5.1 Location. Braille shall be located below the corresponding text. If text is multi-lined, Braille shall be placed below the entire text. Braille shall be separated 1/4 inch (6.4 mm) minimum from any other *tactile characters*.

EXCEPTION: Braille provided in accordance with 407 shall be separated 3/16 inch (4.8 mm) minimum and shall be located either directly below or adjacent to the corresponding *tactile characters* or symbols.

703.5.2 Raised Borders and Decorative Elements. Raised borders and decorative *elements* that are not required, shall be separated 3/8 inch (9.5 mm) minimum from Braille.

703.5.3 Height. Braille shall be located 40 inches (1015 mm) minimum and 60 inches (1525 mm) maximum above the floor measured from the baseline of the Braille cells.

EXCEPTION: This requirement shall not apply to elevator car controls.

703.6 Pictograms. Where *pictograms* are required to be *accessible*, they shall comply with 703.6.1 through 703.6.3.

703.6.1 Pictogram Field. *Pictograms* shall have a field height of 6 inches (150 mm) minimum. *Characters* or Braille shall not be located in the *pictogram* field.

703.6.2 Finish and Contrast. *Pictograms* and their field shall have a non-glare finish. *Pictograms* shall contrast with their field with either a light *pictogram* on a dark field or a dark *pictogram* on a light field.

703.6.3 Text Descriptors. Where text descriptors for *pictograms* are required, they shall located directly below or adjacent to the *pictogram* and shall comply with 703.2.

703.7 Symbols of Accessibility. Where symbols of accessibility are required, they shall comply with 703.7.1 through 703.7.2.

703.7.1 Finish and Contrast. Symbols of accessibility and their background shall have a non-glare finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

703.7.2 Symbols.

703.7.2.1 International Symbol of Accessibility. Where the International Symbol of Accessibility is required, it shall be proportioned as shown in Figure 703.7.2.1. **[insert figure]**

703.7.2.2 International Symbol of TTY. Where the International Symbol of TTY is required, it shall be proportioned as shown in Figure 703.7.2.2. **[insert figure]**

703.7.2.3 Volume Controlled Telephones. Telephones required to have a volume control shall be identified by a *sign* containing a *pictogram* of a telephone handset with radiating sound waves on a square field as shown in Figure 703.7.2.3.**[insert figure]**

703.7.2.4 Assistive Listening Systems. Where assistive listening systems are required to be identified by the International Symbol of Access for Hearing Loss, it shall be proportioned as shown in Figure 703.7.2.4. **[insert figure]**

704 Telephones

704.1 General. Public telephones required to be *accessible* shall comply with 704.

704.2 Wheelchair Accessible Telephones. Public telephones required to be wheelchair *accessible* shall comply with 704.2.1 through 704.2.6.

704.2.1 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided. The clear floor or ground space shall not be restricted by bases, enclosures or fixed seats.

704.2.1.1 Parallel Approach. Where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone unit shall be 10 inches (255 mm) maximum.

704.2.1.2 Forward Approach. Where a forward approach is provided, the distance from the front edge of a counter within the telephone enclosure to the face of the telephone unit shall be 20 inches (510 mm) maximum.

704.2.2 Controls and Operating Mechanisms. *Controls and operating mechanisms* shall comply with 309. Telephones shall have push-button controls where service for such equipment is available.

704.2.3 Protruding Objects. Telephones, enclosures and related equipment shall comply with 307.

704.2.4 Telephone Directories. Telephone directories, where provided, shall be located in accordance with 309.

704.2.5 Cord Length. The cord from the telephone to the handset shall be 29 inches (735 mm) long minimum.

704.2.6 Hearing Aid Compatibility. Telephones shall be hearing aid compatible.

704.3 Volume Control Telephones. Public telephones required to have volume controls shall be equipped with a receive volume control that provides 12 dB of gain minimum and up to 20 dB of gain maximum. An automatic reset shall be provided.

704.4 TTYs. *TTYs* required at a public pay telephone shall be permanently affixed within or adjacent to the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the *TTY* and the telephone receiver.

704.5 TTY Shelf. Public pay telephones required to accommodate portable *TTYs* shall be equipped with a shelf and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the shelf. The shelf shall be capable of accommodating a *TTY* and shall have 6-inch (150 mm) minimum vertical clearance in the area where the *TTY* is to be placed.

705 Detectable Warnings

705.1 General. *Detectable warnings* required on platform edges shall comply with 705.2, 705.3 or 705.4.

705.2 Truncated Domes. A 24-inch (610 mm) wide truncated dome surface complying with 705.2.1 through 705.2.3 shall be provided on the walking surface at the platform edge.

705.2.1 Dome Size. Domes shall have a diameter of 0.9 inch (23 mm), a height of 0.2 inch (5 mm) and a center-to-center spacing of 2.35 inches (60 mm).

705.2.2 Contrast. The truncated dome surface shall contrast visually with adjoining walking surfaces either light-on-dark or dark-on-light. The material used to provide contrast shall be an integral part of the truncated dome surface.

705.2.3 Interior Locations. *Detectable warnings* in interior locations shall differ from adjoining walking surfaces in resiliency or sound-on-cane contact.

705.3 Equivalent Tactile Surface. A 24 inch (610 mm) wide *tactile* surface shall be provided on the walking surface at the platform edge. The *tactile* surface shall provide equivalent detectability underfoot to that provided by 705.2.1 and shall provide contrast in accordance with 705.2.2.

705.4 Equivalent Detectability. Equivalent detectability of the platform edge by other construction, technology or means that will ensure equivalent or superior and reliable communication of the impending change to pedestrians who are blind or visually impaired. The information to be communicated must include 24 inches (610 mm) of advance warning of the platform edge and the precise orientation of the platform edge in relation to the pedestrian.

706 Assistive Listening Systems

706.1 General. Assistive listening systems required in *assembly areas* shall comply with 706.

706.2 Placement of Listening Systems. Individual fixed seats served by an assistive listening system shall have a complete view of the stage, playing area or cinema screen.

706.3 Types of Listening Systems. Induction loops, infrared systems, FM and AM radio frequency systems, hard-wired earphones and other equivalent devices shall be permitted as acceptable assistive listening systems.

706.4 Receiver Jacks. Receivers required for use with an assistive listening system shall include a 1/8-inch (3 mm) standard mono jack. Where other jack types are used, adapters shall be provided to comply with this provision.

706.5 Receiver Hearing Aid Compatibility. Receivers required to be hearing aid compatible shall interface with T-coils in hearing aids either through the provision of neck loops or a hearing aid compatible headset.

707 Automatic Teller Machines and Fare Machines

707.1 General. Automatic teller machines and fare machines required to be *accessible* shall comply with 707.

707.2 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided.

EXCEPTION: Clear floor or ground space is not required at drive-up only automatic teller machines.

707.3 Controls and Operating Mechanisms. *Controls and operating mechanisms* shall comply with 309. Each control or operating mechanism shall be able to be differentiated by sound or touch.

EXCEPTION: Drive-up only automatic teller machines shall not be required to comply with 309.

707.4 Input. Input devices shall comply with 707.4.1 through 707.4.5.

707.4.1 Privacy. The opportunity for the same degree of privacy of input shall be available to all individuals utilizing the equipment.

707.4.2 Key Surfaces. All keys used to operate a machine shall be tactually discernible. Key surfaces shall be offset from the surrounding surface by 1/25 inch (1 mm) minimum. The outer edge of key surfaces shall have a radius of 1/50 inch (0.5 mm) maximum.

EXCEPTION: The touch areas of video display screens.

707.4.3 Separation Between Keys. Any key surface shall be separated from other key surfaces by 1/8 inch (3.2 mm) minimum. Function keys shall be separated from numeric keys by a distance that is not less than three times greater the distance between the numeric keys.

707.4.4 Numeric Keys. Where provided, numeric keys shall comply with 707.4.4.1 and 707.4.4.2.

707.4.4.1 Arrangement. Numeric keys shall be arranged in a 12-key telephone keypad layout with the number one key in the upper left hand corner.

707.4.4.2 Marking. The number five key shall have a single raised dot.

707.4.5 Function Keys. Where provided, function keys shall comply with 707.4.5.1 through 707.4.5.3.

707.4.5.1 Arrangement. Function keys shall be arranged in the order of enter, clear, cancel,

add value and decrease value horizontally from left to right or vertically from top to bottom. Where provided, add value and decrease value function keys shall be grouped with other function keys.

707.4.5.2 Marking. Function keys shall be marked with *tactile characters* as follows: Enter or proceed key: raised circle; Clear or correct key: raised vertical line or bar; Cancel key: raised ex; Add value key: raised plus sign; Decrease value key: raised minus sign.

707.4.5.3 Color Coding. Where function keys are color coded, they shall be colored as follows: Enter or proceed key: green; Clear or correct key: black; Cancel key: red; Add value key: blue; Decrease value key: yellow.

707.5 Output. Output devices shall comply with 707.5.1 through 707.5.6.

707.5.1 Privacy. The opportunity for the same degree of privacy of output shall be available to all individuals utilizing the equipment.

707.5.2 Operating Instructions. Machines shall provide visual and audible instructions for operation. Visual and audible instruction shall include all information required by 707.5.2.1 through 707.5.2.5.

707.5.2.1 Initiation. Instructions shall be able to be initiated by the user of the machine.

707.5.2.2. Expedited Process. After initiation, instructions shall be available for the experienced user to expedite the transaction.

707.5.2.3 Orientation. Orientation and assistance for unfamiliar users to the physical features of the machine, operational options and details for each function shall be provided.

707.5.2.4 Transaction Prompts. All transaction prompts within each operation shall be provided.

707.5.2.5 Input Verification. Verification of all user inputs shall be provided.

707.5.3 Audible Instruction. Audible instruction shall be provided through a standard audio mini jack, a telephone handset, a wireless transmission system or another mechanism that is readily available to all customers.

707.5.4 Video Display Screen. The video display screen shall comply with 707.5.4.1 and 707.5.4.2.

707.5.4.1 Visibility. The screen shall be visible from a point located 40 inches (1015 mm) above the center of the clear floor space in front of the machine.

EXCEPTION: This requirement shall not apply to drive-up only automatic teller machines.

707.5.4.2 Characters. *Characters* displayed on the screen shall be in a sans serif font. *Characters* shall be 3/16 inch (4.8 mm) minimum in height based upon the uppercase letter "I". *Characters* shall contrast with their background with either light *characters* on a dark background or dark *characters* on a light background.

707.5.5 Dispensing of Bills. Machines that dispense paper currency shall dispense the currency in descending order with the lowest denomination on top.

707.5.6 Receipts and Verification. Where a receipt is available and is requested, the following options shall be provided: a printed receipt, audible presentation of the transaction information provided on the receipt, or both.

CHAPTER 8: SPECIAL ROOMS AND SPACES

801 General

801.1 Scope. Special rooms and *spaces* required to be *accessible* by Chapter 2 shall comply with the applicable provisions of this chapter.

802 Wheelchair Spaces in Assembly Areas

802.1 General. *Wheelchair spaces* required in *assembly areas* shall comply with 802.

802.2 Floor or Ground Surface. The floor or ground surface of *wheelchair spaces* shall have a slope not steeper than 1:48 and shall comply with 302. Changes in level are not permitted.

802.3 Width. A single *wheelchair space* shall be 36 inches (915 mm) minimum in width. Where multiple adjacent *wheelchair spaces* are provided, each *wheelchair space* shall be 33 inches (840 mm) minimum in width.

802.4 Depth. Where a *wheelchair space* can be entered from the front or rear, the *wheelchair space* shall be 48 inches (1220 mm) minimum in depth. Where a *wheelchair space* can only be entered from the side, the *wheelchair space* shall be 60 inches (1525 mm) minimum in depth.

802.5 Approach. One side of the *wheelchair space* shall adjoin an *accessible route* or adjoin another *wheelchair space*. Access to any *wheelchair space* shall not be through more than one adjoining *wheelchair space*.

802.6 Integral Part of Seating. *Wheelchair spaces* shall be an integral part of any fixed seating.

802.7 Companion Seat. At least one seat for a companion shall be provided beside each *wheelchair space*.

802.8 Lines of Sight. *Wheelchair spaces* shall provide lines of sight comparable to those of all viewing areas.

803 Dressing, Fitting, and Locker Rooms

803.1 General. Dressing, fitting, and locker rooms required to be *accessible* shall comply with 803.

803.2 Wheelchair Turning Space. Wheelchair turning space complying with 304 shall be provided within the room.

803.3 Doors. Doors shall not swing into any part of the wheelchair turning space.

803.4 Benches. A bench complying with 903 shall be provided within the room.

803.5 Coat Hooks and Shelves. *Accessible* coat hooks provided within the room shall be located within one of the reach ranges specified in 308. Where provided, a fold-down shelf shall be 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the floor.

804 Medical Care Facility Patient or Resident Sleeping Rooms

804.1 General. Medical care *facility* and long term care *facility* patient or resident sleeping rooms required to be *accessible* shall comply with 804.

804.2 Wheelchair Turning Space. Wheelchair turning space complying with 304 shall be provided within the room and shall not overlap with or extend beneath a bed.

804.3 Clear Floor or Ground Space. A clear floor space complying with 305 shall be provided on each side of the bed. The clear floor space shall be positioned for parallel approach to the side of the bed.

804.4 Toilet and Bathing Rooms. Toilet and bathing rooms that are provided as part of a patient or resident sleeping room shall comply with 603.

804.5 Windows. Where operable windows are provided, at least one window shall comply with 309. Each window

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required to be operable by local code or regulation shall comply with 309.

805 Transient Lodging Guest Rooms

805.1 General. *Transient lodging* guest rooms required to be *accessible* shall comply with 805.2. Guest rooms required to have *accessible* communication features shall comply with 805.3.

805.2 Accessible Rooms. *Accessible* guest rooms shall comply with 805.2.1 through 805.2.6.

805.2.1 Living and Dining Areas. Living and dining areas shall be *accessible*.

805.2.2 Exterior Spaces. Exterior *spaces*, including patios, terraces and balconies, that are a part of the guest room shall be *accessible*.

805.2.3 Sleeping Areas. Not less than one sleeping area shall provide a clear floor space complying with 305 on both sides of a bed. The clear floor space shall be positioned for parallel approach to the side of the bed.

EXCEPTION: This requirement shall not apply where a single clear floor space complying with 305 positioned for parallel approach is provided between two beds.

805.2.4 Toilet and Bathing Facilities. Not less than one water closet, one lavatory, and one bathtub or shower shall comply with the applicable provisions of Chapter 6. Required roll-in shower compartments shall comply with 608.2.2 or 608.2.3.

805.2.5 Kitchens, Kitchenettes and Wet Bars. Kitchens, kitchenettes and wet bars shall comply with 805.2.5.1 through 805.2.5.4.

805.2.5.1 Clear Floor Space. A clear floor space complying with 305 shall be provided at sinks, appliances, cabinets and counters.

805.2.5.2 Cabinets. At least 50 percent of shelf space in cabinets shall comply with 905.

805.2.5.3 Sinks. Sinks shall comply with 606.

EXCEPTION: Where a cooktop or conventional oven is not provided, a forward approach with knee and toe clearance is not required.

805.2.5.4 Appliances. *Controls and operating mechanisms* of appliances shall comply with 309. At least 50 percent of shelf space in refrigerators and freezers shall be within at least one of the reach ranges in 308.

805.2.6 Windows. Where operable windows are provided, at least one window shall comply with 309. Each window required to be operable by local code or regulation shall comply with 309.

805.3 Communication Features. Guest rooms required to have *accessible* communication features shall comply with 805.3.1 and 805.3.2.

805.3.1 Alarms. Visual alarms complying with 702.3.6 shall be provided.

805.3.2 Notification Devices. Visual notification devices shall be provided to alert room occupants of incoming telephone calls and a door knock or bell. Notification devices shall not be connected to visual alarm signal appliances. Permanently installed telephones shall have volume controls complying with 704.3 and shall have an electrical outlet complying with 309 located within 48 inches (1220 mm) of the telephone to facilitate the use of a *TTY*.

CHAPTER 9: BUILT-IN FURNISHINGS AND EQUIPMENT

901 General

901.1 Scope. Built-in furnishings and equipment required to be *accessible* shall comply with the applicable provisions of this chapter.

902 Seating at Tables, Counters and Work Surfaces

902.1 General. Seating at tables, counters and work surfaces required to be *accessible* shall comply with 902.

902.2 Clear Floor or Ground Space. A clear floor space complying with 305 positioned for forward approach shall be provided. Knee and toe clearance complying with 306 shall be provided.

902.3 Height. The tops of tables and counters shall be 28 inches (710 mm) minimum and 34 inches (865 mm) maximum above the floor or ground.

903 Benches

903.1 General. Benches required to be *accessible* shall comply with 903.

903.2 Clear Floor or Ground Space. Clear floor or ground space complying with 305 shall be provided and shall be positioned for parallel approach to an end of the bench seat.

903.3 Size. Benches shall have seats that are 20 inches (510 mm) minimum to 24 inches maximum (610 mm) in depth and 42 inches (1065 mm) minimum in length. Benches shall be fixed to a wall along the longer dimension.

903.4 Height. The bench seat shall be 17 inches (430 mm) minimum to 19 in (485 mm) maximum above the floor or ground.

903.5 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 lb (1112 N) is applied at any point on the seat, fastener mounting device or supporting structure.

903.6 Wet Locations. Where installed in wet locations, the surface of the bench shall be slip resistant and shall not accumulate water.

904 Sales and Service Counters

904.1 General. Counters required to be *accessible* shall comply with the applicable provisions of 904.

904.2 Approach. All portions of counters required to be *accessible* shall be located adjacent to a walking surface complying with 403.

904.3 Check-out Aisles. Check-out aisles required to be *accessible* shall comply with 904.3.1 and 904.3.2.

904.3.1 Aisle. Aisles shall comply with 403.

904.3.2 Counter. The counter surface height shall be 38 inches (965 mm) maximum above the finished floor or ground. The top of the counter edge protection shall be 2 inches (51 mm) maximum above the top of the counter surface.

904.4 Point of Sales and Service Counters. Point of sales and service counters required to be *accessible* shall have a portion of the counter 36 inches (915 mm) minimum in length and 36 inches (915 mm) maximum in height above the finished floor or ground.

904.5 Food Service Lines. Counters in food service lines shall comply with 904.5.1 and 904.5.2.

904.5.1 Self-service shelves and dispensing devices. Self-service shelves and dispensing devices for tableware, dishware, condiments, food and beverages shall comply with 308.

904.5.2 Tray Slides. Tray slides shall be 28 inches (710 mm) minimum and 34 inches (865 mm) maximum above the floor or ground.

905 Storage

905.1 General. Storage *facilities* required to be *accessible* shall comply with 905.

905.2 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided.

905.3 Height. Storage *facilities* shall comply with at least one of the reach ranges specified in 308. Clothes rods shall be 54 inches (1370 mm) maximum above the floor or ground.

905.4 Hardware. Hardware for storage *facilities* shall comply with 309.

CHAPTER 10: TRANSPORTATION FACILITIES

1001 General

1001.1 Scope. Every station, bus stop, bus stop pad, terminal *building* or other transportation *facility* shall comply with the applicable provisions of Chapters 2 through 9 and the applicable provisions of this chapter. Exception 1 in 206.2.3 does not apply to a terminal, depot or other station used for specified public transportation or to an airport passenger terminal.

1002 Bus Stops and Terminals

1002.1 General. Bus stops and terminals shall comply with 1002.

1002.2 Bus Stop Pads. Where new bus stop pads are constructed at bus stops, bays or other areas where a lift or *ramp* is to be deployed, they shall comply with 1002.2.1 through 1002.2.4.

1002.2.1 Surface. Bus stop pads shall have a firm, stable surface.

1002.2.2 Dimensions. Bus stop pads shall have a clear length of 96 inches minimum measured from the curb or vehicle roadway edge and a clear width of 60 inches minimum measured parallel to the vehicle roadway to the maximum extent allowed by legal or *site* constraints.

1002.2.3 Connection. Bus stop pads shall be connected to streets, sidewalks or pedestrian paths by an *accessible route* complying with 402.

1002.2.4 Slope. The slope of the bus stop pad parallel to the roadway shall, to the extent practicable, be the same as the roadway. For water drainage, a maximum slope of 1:48 perpendicular to the roadway is allowed.

1002.3 Bus Shelters. Where provided, new or replaced bus shelters shall provide a minimum clear floor or ground space complying with 305. Such shelters shall be connected by an *accessible route* to the boarding area required by 1002.2.

1002.4 Signs. New bus route identification *signs* shall comply with 703.4.1. In addition, to the maximum extent practicable, new bus route identification *signs* shall comply with 703.4.

EXCEPTION: Bus schedules, timetables and maps that are posted at the bus stop or bus bay are not required to comply with this requirement.

1002.5 Bus Stop Siting. Bus stop *sites* shall be chosen such that, to the maximum extent practicable, the areas where lifts or *ramps* are to be deployed comply with 1002.2 and 1002.3.

1003 Fixed Facilities and Stations

1003.1 General. Fixed *facilities* and stations shall comply with the applicable provisions of 1003.

1003.2 New Construction. New stations in rapid rail, light rail, commuter rail, intercity bus, intercity rail, high speed rail and other fixed guideway systems shall comply with the 1003.2.1 through 1003.2.10.

1003.2.1 Station Entrances. Where different *entrances* to a station serve different transportation fixed routes or groups of fixed routes, at least one *entrance* serving each group or route shall comply with 402. All *accessible entrances* shall, to the maximum extent practicable, coincide with those used by the majority of the general public. In below ground subway stations, at least one *entrance* to each station shall comply with 402.

1003.2.2 Signs.

1003.2.2.1 Tactile Signs. Where *signs* are provided at *entrances* to stations identifying the station or the *entrance*, or both, at least one *sign* at each *entrance* shall be *tactile* and shall comply with 703.2. Such *signs* shall be placed in uniform locations at *entrances* within the transit system to the maximum extent practicable.

EXCEPTION: Where the station has no defined *entrance* but *signs* are provided, the *tactile signs* shall be placed in a central location.

1003.2.2.2 Identification Signs. Stations covered by this section shall have identification *signs* complying with 703.4. *Signs* shall be clearly visible and within the sightlines of a standing or sitting passenger from within the train on both sides when not obstructed by another train.

1003.2.2.3 Informational Signs. Lists of stations, routes and destinations served by the station which are located on boarding areas, platforms, or *mezzanines* shall comply with 703.4. A minimum of one *tactile sign* identifying the specific station and complying with 703.2 shall be provided on each platform or boarding area. *Signs* covered by this provision shall, to the maximum extent practicable, be placed in uniform locations within the transit system.

EXCEPTION: Where *sign* space is limited, track numbers, train destination names, directions to the ticket office, and information essential to using the transit system shall have a *character* height of 3 inches (75 mm) minimum and shall comply with 703.4. Specific exit street names, directional information, and other information not essential to use of the transit system shall have a *character* height of 1-1/2 inches (38 mm) minimum and shall comply with 703.4.

1003.2.3 Fare Machines. Self-service fare vending, collection and adjustment machines shall comply with 707. Where self-service fare vending, collection or adjustment machines are provided for the use of the general public, at least one *accessible* machine of each type provided shall be provided at each *accessible* point of entry or exit.

1003.2.4 Detectable Warnings. Platform edges bordering a drop-off and not protected by platform screens or guard rails shall have a *detectable warning* complying with 705.

1003.2.5 Rail-to-Platform Height. In stations covered by this section, rail-to-platform height shall be coordinated with the floor height of new vehicles so that the vertical difference, measured when the vehicle is at rest, is within plus or minus 5/8 inch (16 mm) under normal passenger load conditions. For rapid rail, light rail, commuter rail, high speed rail, and intercity rail systems in new stations, the horizontal gap, measured when the new vehicle is at rest, shall be 3 inches (75 mm) maximum. For slow moving automated guideway "people mover" transit systems, the horizontal gap in new stations shall be 1 inch (25 mm) maximum.

EXCEPTIONS: 1. Existing vehicles operating in new light rail, commuter rail, high speed rail, and intercity rail stations may have a vertical difference with respect to the new platform within plus or minus 1-1/2 inches (38 mm).

2. In light rail, commuter rail and intercity rail systems where it is not operationally or structurally feasible to meet the horizontal gap or vertical difference requirements, mini-high platforms, car-borne or platform-mounted lifts, *ramps* or bridge plates, or similar manually deployed devices meeting the applicable requirements of 36 CFR part 1192, or 49 CFR part 38 shall suffice.

1003.2.6 TTYs: Where a public pay telephone is provided in a transit *facility* (as defined by the Department of Transportation) at least one public *TTY* complying with 704.4 shall be provided in the station. Where four or more public pay telephones serve a particular *entrance* to a rail station, at least one *TTY* telephone complying with 704.4 shall be provided to serve that *entrance*.

1003.2.7 Track Crossings. Where it is necessary to cross tracks to reach boarding platforms, the route surface shall be level with the rail top at the outer edge and between the rails, except for a 2-1/2 inch (65 mm) maximum gap on the inner edge of each rail to permit passage of wheel flanges. Where gap reduction is not practicable, an above-grade or below-grade *accessible route* shall be provided.

1003.2.8 Public Address Systems. Where public address systems are provided to convey information to the public in terminals, stations or other fixed *facilities*, a means of conveying the same or

equivalent information to persons with hearing loss or who are deaf shall be provided.

1003.2.9 Clocks. Where clocks are provided for use by the general public, the clock face shall be uncluttered so that its elements are clearly visible. Hands, numerals and digits shall contrast with the background either light-on-dark or dark-on-light. Where clocks are mounted overhead, numerals and digits shall comply with 703.4.

1003.2.10 Escalators. Where provided in below grade stations, escalators shall have a clear width of 32 inches (815 mm) minimum.

1003.3 Existing Facilities: Key Stations. Rapid, light and commuter rail key stations, as defined under criteria established by the Department of Transportation in subpart C of 49 CFR part 37, and existing intercity rail stations shall comply with 1003.3.1 through 1003.3.3.

1003.3.1 Accessible Route. At least one *accessible route* from an *accessible entrance* to those areas necessary for use of the transportation system shall be provided. The *accessible route* shall include the features specified in 1003.2, except that escalators shall not be required to comply with 1003.2.10. Where *technical infeasibility* in existing stations requires the *accessible route* to lead from the public way to a paid area of the transit system, an *accessible* fare collection machine complying with 1003.2.3 shall be provided along such *accessible route*.

1003.3.2 Rail-to-Platform Height. In light rail and commuter rail key stations, the platform or a portion thereof and the vehicle floor shall be coordinated so that the vertical difference, measured when the vehicle is at rest, within plus or minus 1-1/2 inches (38 mm) under all normal passenger load conditions, and the horizontal gap, measured when the vehicle is at rest, is 3 inches (75 mm) maximum for at least one door of each vehicle or car required to be *accessible* by 49 CFR part 37.

EXCEPTIONS: 1. Existing vehicles retrofitted to meet the requirements of 49 CFR 37.93 (one-car-per-train rule) shall be coordinated with the platform such that, for at least one door, the vertical difference between the vehicle floor and the platform, measured when the vehicle is at rest with 50 percent normal passenger capacity, is within plus or minus 2 inches (51 mm) and the horizontal gap is 4 inches (100 mm) maximum.

2. Where it is not structurally or operationally feasible to meet the horizontal gap or vertical difference requirements, mini-high platforms, car-borne or platform mounted lifts, *ramps* or bridge plates, or similar manually deployed devices, meeting the applicable requirements of 36 CFR Part 1192 shall suffice.

1003.3.3 Direct Connections. New direct connections to commercial, retail or residential *facilities* shall, to the maximum extent feasible, have an *accessible route* complying with 402 from the point of connection to boarding platforms and all transportation system *elements* used by the public. Any *elements* provided to facilitate future direct connections shall be on an *accessible route* connecting boarding platforms and all transportation system *elements* used by the public.

1003.4 Existing Facilities: Alterations. For the purpose of complying with 202.4, an area of primary function shall be as defined by applicable provisions of 49 CFR 37.43(c) (Department of Transportation's ADA Rule) or 28 CFR 36.403 (Department of Justice's ADA Rule).

1004 Airports

1004.1 New Construction. New construction of airports shall comply with 1004.

1004.2 TTYs . Where public pay telephones are provided, at least one *TTY* shall be provided in compliance with 704.4. Additionally, if four or more public pay telephones are located in a main terminal outside the security areas, a concourse within the security areas, or a baggage claim area in a terminal, at least one public TTY complying with 704.4 shall also be provided in each such location.

1004.3 Terminal Information Systems. Terminal information systems that broadcast information to the general public through a public address system shall provide a means to provide the same or equivalent information to persons with a hearing loss or who are deaf.

1004.4 Clocks. Where clocks are provided for use by the general public, the clock face shall be uncluttered so that

its elements are clearly visible. Hands, numerals and digits shall contrast with their background either light-on-dark or dark-on-light. Where clocks are mounted overhead, numerals and digits shall comply with 703.4.

RECOMMENDATIONS FOR FORMAT

DEFINED TERMS

- Italicized where they appear in text.
- Always expressed in the same manner
- Do not include requirements; they provide a description

LANGUAGE STYLE

- Will generally use writing style of 1992 A117.1.
- No nonmandatory language will be used.

NUMBERING SYSTEM

- Major Subdivisions will be by Chapter. (Chapter 3)
- Chapters will be divided by Sections (Section 304)
- Sections will be divided by Sub-sections (Section 304.5)
- Subsections will be divided as necessary (Section 304.5.6.7)
- Subdivisions will not exceed 5 decimals
- Tables and Figures shall be numbered based on their referenced section (Table 304.5) (Figure 304.5.6)
- Sections or chapters will not be skipped or "reserved" for possible future provisions

FIGURES AND COMMENTARY

- Figures and commentary (appendix) language shall be presented in close proximity to, but clearly separated from, the corresponding technical or scoping provision, and shall be clearly identified as non-mandatory.

Figures

The Access Board should develop new figures for use with the revised ADAAG. Existing figures should be reviewed, improved, and edited or deleted as appropriate. New figures should be developed where appropriate.

ADAAG Commentary (Appendix)

The Committee recommends that the Access Board develop a comprehensive new commentary for the revised ADAAG. The Committee did not attempt to fully review or study existing "Appendix" language, or to draft new commentary language related to all revised ADAAG sections. However, the work of the Committee has created several sources of information that the Access Board should utilize in the development of the commentary, as follows:

Editorial Side-by Side. This document was prepared by the Editorial Subcommittee to clearly separate "scoping", "technical" and "other" provisions in current ADAAG. The "other" text includes commentary language in numerous locations, including examples, recommendations, or explanations.

Committee Report- The December 1995 Final subcommittee reports contain the most comprehensive accumulation of committee rationale for recommended revisions to current ADAAG. In addition, some committee actions included specific recommendations for commentary text.

Current ADAAG Appendix. Portions of the current appendix will still likely be appropriate as commentary for the revised guidelines.

Approved Committee Challenges. Approved committee challenges (from February 1996) include a rationale for the challenge, and some challenges included specific recommendations for commentary text.

Harmonization and Editorial Meeting Results. In a few cases, the committee made specific commentary recommendations at the harmonization (July 1996) and Editorial (August 1996) meetings.

Specific Commentary Actions

The following includes all instances where the Full Committee recommends a specific action to the current appendix (new commentary).

Editorial Meeting - August 1996

201.3 Temporary Structures. Move existing sentence from 4.1.1(4) of current ADAAG to commentary. "Temporary buildings and facilities are not of permanent construction...."

1004.3 Terminal Information Systems. Move two sentences from current ADAAG 10.4.1(6) to commentary. "Such methods may include....."; "For persons with certain types..."

Harmonization Meeting - July 1996

4.2.4.1 "Clear floor space accommodates a single stationary wheelchair and occupant."

4.27 Braille. "Case: The first letter of proper nouns and names and individual letters of the alphabet shall be displayed in upper case Braille."

4.33.6 Assistive Listening Systems. Placement - address placement of fixed seats served by systems.

4.33.7 Assistive Listening Systems. Intent, types of systems. Full paragraph from current ADAAG.

Challenges - February 1996

4.6.4 (Challenge C-33) Access Aisles. "Diagonal stripes, other means of clearly differentiating access aisles from parking spaces, or signs prohibiting parking in access aisles are examples of methods of discouraging parking in access aisles."

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10.3.1(5) (Challenge C-54) Station Identification Signs. "Station identification signs should be placed at intervals in the station such that passengers in the vehicle will be able to see one when the vehicle is either stopped at the station or about to come to a stop in the station."

4.33.3 (Challenge CC-8) Dispersion of Wheelchair spaces. "This requirement should not be misinterpreted as a reverse scoping requirement on upper floor levels whether or not such elevator access is required by 4.1.3(5)."

4.28.3 (Challenge CC-7) Alarms. Develop text consistent with issues addressed in text approved by committee re: reasonable accommodation of employee by adding or removing visual alarm; potential effect of "cumulative" flash rate on persons with photosensitivity; sources of additional information.

Accessible Route Subcommittee Final Report - December 1995

4.1.3(8)(b) Current ADAAG text. "Because entrances also serve as emergency exits ..., it is preferable that all entrances be accessible." Committee notes point out that entrances are not always exits.

4.1.3(21) Current ADAAG text. "Examples of types of dressing rooms..."

4.5.1 Carpets. Delete all specific recommendations regarding slip resistance criteria. (Was approved by committee prior to December 1995 final report.)

Communications Subcommittee Final Report - December 1995

1.0 Purpose. "This document does not contain technical criteria to specifically address the needs of persons with cognitive disabilities."

3.5 Definitions. Element - List of examples of elements.

3.5 Definitions. Sign - "Audible signs can be useful for presentation of certain information. Examples are wayfinding in cases where the destination is clearly visible or as a supplement to visual signs."

4.1.3(16)(a) Signs. "The use of pictograms and consistent, clear terms such as...." Committee report page 6.

4.34.1 General. "The equipment should not prevent users, including those with vision impairments....." Committee report page 49.

4.34.3 Input. "Private input means it is intended for the use of one individual at a time."

4.34.3.1 Keys. "It is intended that the user will hear a sound or discern a difference..." Committee report page 51.

4.34.4 Output. "Private output means it is intended for the use of one individual at a time."

4.34.4.2.1 Operating Instructions. "Verification of the PIN entered is considered to be achieved by the execution of the transaction. PIN Numbers should not ..." Committee report page 54.

Special Occupancies Committee Final Report - December 1995

Parking

4.1.2(5)(e) Valet parking - "In rare cases where self-parking facilities are not possible..." Committee report page SO-P6.

4.6.3 Universal parking space - coordinate signs. Committee report page SO-P6.

4.6.4 Access Aisles. Coordinate access aisle language with text added by challenge. Committee report page SO-P7.

Medical

6.3(2) "In rooms with more than one bed, it is preferable that this space be located between beds." Relocated current ADAAG text.

4.1.1(3) Examples of work areas. Note: this was moved to commentary by Challenge S-5, but was never coordinated with the final Full Committee recommendation for "work stations." Committee report page SO-M5.

Transient Lodging

9.1.4 Room dispersion factors, Equivalent facilitation text. Challenge S-23 moved all to commentary. Committee report page SO-TL5,6.

Sales and Service

4.1.3(21) "Examples of types of dressing rooms are those serving different genders or distinct and different functions as in different treatment or examination facilities." Committee report page SO-S&S-11.

5.5 "Food service lines. "...with a preferred clear width of 42 in (1065 mm) to allow passage around a person using a wheelchair." Committee report page SO-S&S-11.

7.2(3) Assistive Listening Systems. Relocate existing appendix text. Committee report page SO-S&S-11.

7.3 Check-out Aisles. "Examples of check-out aisles of different "design" include ..." Relocated from current 7.3. Committee report page SO-S&S-11.

8.4 Card Catalogs. Move preferred height to commentary. Committee report page SO-S&S-11.

8.5 Stacks. Move preferred aisle width to commentary. Committee report page SO-S&S-11.

Assembly

4.1.3(5) Add "stage lifts" to existing appendix text. Paragraph addressing current ADAAG exception 4 should be deleted - Committee deleted exception. Committee report page SO-A-11.

4.1.3(19)(a) Removable seat text - relocated. Committee report page SO-A-11.

4.1.3(19)(a) Seats with folding or removable armrests - delete. Committee report page SO-A-11.

4.33.1 Assembly seating. Minimum number - new paragraph. Committee report page SO-A-12.

4.33.2 Size of wheelchair spaces. Explanation of overlapping spaces. Committee report page SO-A-12.

4.33.2(3) Companion seating. "Companion seating is permitted to be furniture, fixed seating, removable or relocatable seating." Committee report page SO-A-12.

4.33.3 Revise title. (Coordinate with final report.) Committee report page SO-A-13.

4.33.3(4) Removable seats - relocated from 4.1.3(19)(a). - Note: Full committee deleted text addressing removable seats from guidelines. Committee report page SO-A-13.

4.33.3(3) Access to Performing Areas. Committee report page SO-A-13.